



中国船级社
CHINA CLASSIFICATION SOCIETY

证书格式号/Form: T02.02-
SH000071

型式认可证书
CERTIFICATE OF TYPE APPROVAL

证书编号/Certificate No. HB17T00052_03

兹证明本证书所述制造厂生产的下列产品能够满足下面列明认可标准的要求。

This is to certify that the following products produced by the manufacturer stated in the certificate can meet the requirements of the approval standards listed below.

认可产品/ Product Approved

计程仪
SPEED LOG

品牌拥有方/ Licensor

Northrop Grumman Sperry Marine B.V.

Woltmanstrasse 19, D-20097 Hamburg, Germany

附加标志/ Notations

无/Nil.

认可标准/ Approval Standard

1. 国际海事组织(IMO) A.694(17)决议
IMO Resolution A.694(17)
2. IEC61023:2007 《船用导航和无线电通信设备和系统--船用速度和距离测量设备(SDME)--性能要求、试验方法和试验结果要求》
IEC61023:2007, Maritime navigation and radiocommunication equipment and systems - Marine speed and distance measuring equipment (SDME) - Performance requirements, methods of testing and required test results
3. 国际海事组织(IMO) A. 824(19)决议
IMO Res. A. 824(19)
4. 国际海事组织(IMO) MSC. 96(72)决议
IMO Res. MSC. 96(72)

证书有效期至/ This Certificate is valid until

2022年1月16日 / Jan. 16, 2022

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

签发日期 2018年1月14日
Date Jan. 14, 2018

本证书根据中国船级社《钢质海船入级规范》及有关程序规定签发。关于证书的有关规定见本证书背面的说明。当本证书包括多页纸张时，则所有证书页为一个整体，必须同时使用。每一页证书均须由本社盖章方为有效。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。本认可证书不代表本社对个体产品质量的检验。有关各方对所持证书的真实性有疑问时，可以向我社检验机构咨询。
This Certificate is issued pursuant to the Rules for Classification of Sea-going Steel Ships and related procedures of the Society. Refer to the back of the certificate for detailed requirements of the certificate. When the certificate consists of more than one page, all pages of the certificate are taken as a whole and are used simultaneously. No certificate page is valid without bearing the stamp of the Society 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. This approval certificate does not constitute the inspection of the Society about the quality of the unit/batch product. Related parties who are doubted about the authenticity of the certificate may inquire of the Society or its offices.



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HB88811018
N^o: 16807694

授权制造企业/ The Manufacturer(s) Authorized By The Licensor

l.mikrolab GmbH;Siemensstrasse 43 D-90766 Fuerth Germany

产品明细/ Product Description

| | |
|---------------------------|---|
| 计程仪/SPEED LOG 型号/Model | : Single-axis water speed Doppler Speed Log NAVIKNOT 450D, NAVIKNOT 450DD |
| 电源/Power Supply | : 24VDC |
| 速度范围/Speed Range | : -50 to +50 NM/h |
| 速度精度/Speed Accuracy | : ±1% or 0.1 kn of true speed, whichever is greater |
| 距离显示/Distance display | : 0 to 999999.9(total) / 0 to 9999.99(daily) NM |
| 系统组成/System is consist of | : 详见附页/See additional pages |
| 计程仪/SPEED LOG 型号/Model | : Dual-axis water and ground speed Doppler Speed Log NAVIKNOT 550DD, SRD 500A |
| 电源/Power Supply | : 24VDC |
| 速度范围/Speed Range | : -20 to +50 NM/h |
| 速度精度/Speed Accuracy | : ±1% or 0.1 kn of true speed, whichever is greater |
| 距离显示/Distance display | : 0 to 999999.9(total) / 0 to 9999.99(daily) NM |
| 系统组成/System is consist of | : 详见附页/See additional pages |
| 计程仪/SPEED LOG 型号/Model | : Single-axis Water Speed Electromagnetic Speed Log NAVIKNOT 350E, 350EE |
| 电源/Power Supply | : 24VDC |
| 速度范围/Speed Range | : -35 to +35 NM/h |
| 速度精度/Speed Accuracy | : ±1% or 0.1 kn of true speed, whichever is greater |
| 距离显示/Distance display | : 0 to 999999.9(total) / 0 to 9999.99(daily) NM |
| 系统组成/System is consist of | : 详见附页/See additional pages |
| 计程仪/SPEED LOG 型号/Model | : NAVIKNOT 600S NAVIKNOT 600SD NAVIKNOT 600SDD NAVIKNOT 600SDT NAVIKNOT 600SE |
| 速度范围/Speed Range | : -50 to +50 NM/h |
| 速度精度/Speed Accuracy | : ±1% or 0.1 kn of true speed, whichever is greater |
| 电源/Power Supply | : 24VDC |
| 距离显示/Distance display | : 0 to 999999.9(total) / 0 to 9999.99(daily) NM |
| 系统组成/System is consist of | : 详见附页/See additional pages |

批准的图纸和设计计算书/ Approved Drawings and Design Calculations

图纸批准号/ Drawings Approval No. : NP09A00735;NP09A00736

产品认可试验报告/ Approval Test Report

试验报告编号/Test Report No. : EMC07/7003-1-1
 试验报告日期/Test Report Date : 2007-02-08
 试验单位/ Laboratory : EMV Services GmbH _Co. KG
 试验单位地址/ Test Address : Harburger Schlosstrasse 6-12 D-21079 Hamburg



| | | |
|-------------------------|---|--|
| 试验报告编号/Test Report No. | : | No. 6052b, 6154a/07 |
| 试验报告日期/Test Report Date | : | 2007-04-03 |
| 试验单位/ Laboratory | : | BFSV |
| 试验单位地址/ Test Address | : | Hamburg, Germany |
| 试验报告编号/Test Report No. | : | GL-07-05-01 |
| 试验报告日期/Test Report Date | : | 2007-05-01 |
| 试验单位/ Laboratory | : | Northrop Grumman Sperry Marine B.V. |
| 试验单位地址/ Test Address | : | Woltmanstrasse 19 D-20097 Hamburg |
| 试验报告编号/Test Report No. | : | NAVIKNOT 600s Redesign(20150814) |
| 试验报告日期/Test Report Date | : | 2015-08-14 |
| 试验单位/ Laboratory | : | - |
| 试验单位地址/ Test Address | : | Northrop Grumman Sperry Marine B.V. - Woltmanstrasse 19 D-20097 Hamburg |
| 试验报告编号/Test Report No. | : | Display test according to IEC 62288 |
| 试验报告日期/Test Report Date | : | 2015-08-13 |
| 试验单位/ Laboratory | : | - |
| 试验单位地址/ Test Address | : | Northrop Grumman Sperry Marine B.V. - Harburger Schlosstrasse 6-12 D-21079 Hamburg |

产品适用范围/ Application of the Product

船舶与海上设施/Ships and Offshore Installations

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. 如果属于获得型式认可B 模式证书, 且无需颁发船用产品证书/等效证明文件的情况, 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, 检查工作可在周年日的前后三个月内进行。
If belong to the situation of the product has type approval mode B certificate, and marine product certificate/equivalent document is not necessary, those who have obtained the certificate should be subject to periodical audit every year. The periodical audit should be carried out within 3 months before and after the anniversary date which corresponds to the date of expiry of the relevant.
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. 在本证书有效期间, 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).

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

按照规范逐件检验的产品/The product inspected one by one in term of the rules:
认可后的产品检验应由本社验船师根据本社规范规定逐件按批准的产品检验计划进行检验, 经检验合格后由本社颁发船用产品证书。
After approval, product inspection should be carried out one by one by the Surveyor of the Society in accordance with the approved product inspection scheme, and the Marine Product Certificate will be

issued by the Society upon satisfactory inspection.

对于原材料和零部件的检验要求/ Inspection Requirements for Materials and Components

产品如下原材料和零部件应由本社认可的制造厂生产/The following materials and components of the product should be manufactured by the factory approved by the Society:无/Nil.

产品如下原材料和零部件应经本社检验/The following materials and components of the product should be inspected by the Society:无/Nil.

产品如下原材料和零部件的制造厂清单, 经本社批准方可变更/The list of manufacturer for the following materials and components of the product should not be changed without the Society's approval:无/Nil.

免责声明/Statement of Responsibility

本社的认可不影响、替代与本社授权或检验无关的各方对上述工厂的认可和发证, 并且不对与本社授权或检验无关的各方负责, 不承担其未经应允而承认、接受本社认可所导致的法律和经济责任。

The approval of the Society does not affect and replace any approval and certification of the manufacturer by any parties that bear no relation with this Society's authorization or survey and therefore takes no responsibility for these parties. The Society does not undertake any legal and economic liabilities arising from accepting this Society's certificate without prior permission from this Society.

本证书中的品牌拥有方应对其品牌使用的合法性负责。

The licensor of this certificate should be responsible for the legality of using of relevant brand(s) and design(s).

其他/Others

本证书由原型式认可证书 (No. HB13T00038_02/03;HB16T00004_01/02) 换新并替代原证书。
This certificate is renewed from and supersedes the previous Type Approval Certificate No. HB13T00038_02/03;HB16T00004_01/02.

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.

中国船级社汉堡分社

CCS Hamburg Branch

*****本证书正文完/ End of Text*****

注: 本证书含有附页, 共2页

Note: The certificate is attached with 2 additional page(s)

Products Description

一. Single-axis Water Speed Electromagnetic Speed Log NAVIKNOT 350E, 350EE

1. The system consisting of the following main parts:

Control and display unit 5001 or 5002 with software revision 1.x

Electronics unit 5003 or 5004 with software revision 2.x

Preamplifier 2863 or 5005

Transducer 2829 or 4040 or 4077 or 4120 or 4726 or 4874 or 0718-013 or FNF III 4874

Optional Speed indicator: (-5 to 25 kn): 4462 or 4812 or 60381 or 60384 or 60386 or 60387

(-5 to 40 kn): 4525 or 60382 or 60385

(-5 to 60 kn): 60383

(-5 to 30 kn): ANS 244

Optional Universal digital repeater UDR: 4891

Optional Pulse output splitter box: SDO-03, or SDO-06

2. The Speed-log indicate speed and distance through the water

3. Drawings Approval No. : NP09A00735

二. Single-axis water speed Doppler Speed Log NAVIKNOT 450D, NAVIKNOT 450DD

The system consisting of the following main parts:

Control and display unit 5001 with software revision 1.x

Electronics unit 5003 with software revision 1.x

Electronics unit 4909 or 1807227 with HW Rev.1807227-4, Rev.J and SW rev.1813192

Preamplifier 5005

Transducer 4910 or 4978 or 4983 or 5020

Optional Speed indicator: (-5 to 25 kn): 4462 or 4812 or 60381 or 60384 or 60386 or 60387

(-5 to 40 kn): 4525 or 60382 or 60385

(-5 to 60 kn): 60383

(-5 to 30 kn): ANS 244

Optional Universal digital repeater UDR: 4891

Optional Pulse output splitter box: SDO-03, or SDO-06

2. The Speed-log indicate speed and distance through the water.

3. Drawings Approval No. : NP09A00735

三. Dual-axis water and ground speed Doppler Speed Log NAVIKNOT 550DD, SRD 500A

1. The system consisting of the following main parts:

Control and display unit 5001 or 5002 with software revision 1.x

Electronics unit 5003 with software revision 1.x

Electronics unit P/N 1982770

Transducer Unit(Valve mount) 1982769-VAR or 1982809-VAR

Optional Speed indicator: (-5 to 25 kn): 4462 or 4812 or 60381 or 60384 or 60386 or 60387

(-5 to 40 kn): 4525 or 60382 or 60385

(-5 to 60 kn): 60383 ; (-5 to 30 kn): ANS 244

Optional Universal digital repeater UDR: 4891 or SSD12 or SSD 22

Optional Pulse output splitter box: SDO-03, or SDO-06

2. The Speed-log indicate speed and distance through the water and ground.

3. Drawings Approval No. : NP09A00736

—To be continued—



Products Description

四. NAVIKNOT 600S; NAVIKNOT 600SD; NAVIKNOT 600SDD; NAVIKNOT 600SDT; NAVIKNOT 600SE

1. The System consisting of the following main parts:

Control and Display Unit 5001 or 5002 with Software Revision 1.x

Electronics unit 5003 or 5004 with SW Rev.2.x ; 4909 or 1807227 with HW Rev.1807227-4 and SW rev.1813192

Satellite antenna unit:4801387-1 or 4801387-2 or 5008 or 5008-AA or 60437.

Preamplifier 5005 or 2863 or 2863-AA

Tranducer 2829 or 4040 or 4120 or 4726 or 4874 or 4910 or 4978 or 4978-4000 or 4983 or 5020 or 1981337-VAR

Adaptor flange: 4978-5000

Optional Speed indicator: (-5 to 25 kn): 4462 or 4812 or 60381 or 60384 or 60386 or 60387

(-5 to 40 kn): 4525 or 60382 or 60385

(-5 to 60 kn): 60383

(-5 to 30 kn): ANS 244

Optional Universal digital repeater UDR: 4891

Optional Pulse output splitter box: SDO-03,or SDO-06

2. Type 600S: Dual-axis ground speed satellite Speed Log system

Type 600SD, 600SDD, 600SDT: Single-axis water speed Doppler and dual axis ground speed satellite Speed Log system

Type 600SE: Single-axis water speed electromagnetic and dual axis ground speed satellite Speed Log system

3. Drawings Approval No. : NP09A00735

