



中国船级社
CHINA CLASSIFICATION SOCIETY

证书编号/Certificate No.
SW23PTB00009

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.

制造厂/Manufacturer

NAVIS ENGINEERING OY

地址/Address

Tuupakantie 3A, FI-01740 Vantaa, Finland

产品名称/Product

动力定位控制系统
Dynamic Positioning Control System

附加标志/Notations

无/Nil.

认可标准/Approval Standard

- 中国船级社《钢质海船入级规范》（2023）及其变更通告 第8篇第11章
Chapter 11, Part Eight of China Classification Society Rules for Classification of Sea-going Steel Ships 2023 and its Change Notices
- IMO MSC.1 第1580号通函 船舶和装置的动力定位（DP）系统指南
IMO MSC.1 Circ.1580 - Guidelines For Vessels And Units with Dynamic Positioning (Dp) Systems

用于/Intended for

船舶/Ships

产品明细/Product Description

动力定位控制系统/Dynamic Positioning Control System (M0001)

名称/Name	属性（值）/Value	单位/Unit
型号/Type	NavDP 4000	
电源/Power Source	AC 230 V	
软件版本号/Software Version	3.4.X Computer OS: Windows 7 PRO / Win 10 IoT	
系统组成/System Composition	See additional pages	

证书有效期至/This Certificate is valid until 2027年10月20日/Oct. 20,2027

发证机构/Issued by 中国船级社斯德哥尔摩办事处
CCS Stockholm Office

签发日期/Date 2023年10月21日
Oct. 21,2023

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: T01.

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:P023-63033852

外壳防护等级/Degree of Protection of Enclosure	See additional pages	
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批准的图纸/Approved Drawings

图纸批准号/ Drawings Approval No. : NP22PPP00925

产品认可试验报告/ Approval Test Report

试验报告编号/ Test Report No. : HELEM2107000282-1 (typetestreport01_ver1.0_IACS-UR-E10)

试验报告日期/ Test Report Date : 2021-07-29

试验单位/ Laboratory: SGS Fimko Ltd.

试验单位地址/ Test Address: Takomotie 8, FI-00380 Helsinki Finland

试验报告编号/ Test Report No. : 281090-1 (typetestreport02_ver1.0_EMC-CommBox-281090-1)

试验报告日期/ Test Report Date : 2015-09-24

试验单位/ Laboratory: SGS Fimko Oy

试验单位地址/ Test Address: Särkiniementie 3 P.O.Box 30, FIN-00210 Helsinki Finland

试验报告编号/ Test Report No. : VTT-S-04209-15 (typetestreport03_ver1.0_ENV-CommBox-04209-15)

试验报告日期/ Test Report Date : 2015-11-03

试验单位/ Laboratory: VTT Expert Services Ltd

试验单位地址/ Test Address: Kivimiehentie 4, Espoo, P.O.Box 1001, FI-02044 VTT, FINLAND

试验报告编号/ Test Report No. : 291675-1 (typetestreport04_ver1.0_EMC-PU-CU-I0-291675-1)

试验报告日期/ Test Report Date : 2018-05-14

试验单位/ Laboratory: SGS Fimko Oy

试验单位地址/ Test Address: Särkiniementie 3 P.O.Box 30, FIN-00210 Helsinki Finland

试验报告编号/ Test Report No. : VTT-S-02241-18 (typetestreport05_ver1.0_ENV-PU-CU-I0-02241-18)

试验报告日期/ Test Report Date : 2018-05-11

试验单位/ Laboratory: VTT Expert Services Ltd

试验单位地址/ Test Address: Kivimiehentie 4, Espoo, P.O.Box 1001, FI-02044 VTT, FINLAND

试验报告编号/ Test Report No. : 288184-2 (typetestreport06_ver1.0_EMC-panels-288184-2)

试验报告日期/ Test Report Date : 2017-11-20

试验单位/ Laboratory: SGS Fimko Oy

试验单位地址/ Test Address: Särkiniementie 3 P.O.Box 30, FIN-00210 Helsinki Finland

试验报告编号/ Test Report No. : 289840-1 (typetestreport07_ver1.0_EMC-panels2-289840-1)

试验报告日期/ Test Report Date : 2017-11-09

试验单位/ Laboratory: SGS Fimko Oy

试验单位地址/ Test Address: Särkiniementie 3 P.O.Box 30, FIN-00210 Helsinki Finland

试验报告编号/ Test Report No. : 298074-1 (typetestreport08_ver1.0_ENV-DampHeat-panels-298074-1)

试验报告日期/ Test Report Date : 2019-11-29

试验单位/ Laboratory: SGS Fimko Oy

试验单位地址/ Test Address: Särkiniementie 3 P.O.Box 30, FIN-00210 Helsinki Finland

试验报告编号/ Test Report No. : VTT-S-02004-17 (typetestreport09_ver1.0_ENV-panels-02004-17)

试验报告日期/ Test Report Date : 2017-04-12

试验单位/ Laboratory: VTT Expert Services Ltd

试验单位地址/ Test Address: Kivimiehentie 4, Espoo, P.O.Box 1001, FI-02044 VTT, FINLAND

试验报告编号/ Test Report No. : VTT-S-06678-17 (typetestreport10_ver1.0_ENV-panels2-06678-17)

试验报告日期/ Test Report Date : 2017-12-12

试验单位/ Laboratory: VTT Expert Services Ltd

试验单位地址/ Test Address: Kivimiehentie 4, Espoo, P.O.Box 1001, FI-02044 VTT, FINLAND

试验报告编号/ Test Report No. : VTT-S-06683-17 (typetestreport11_ver1.0_ENV-panels3-06683-17)

试验报告日期/ Test Report Date : 2017-12-12

试验单位/ Laboratory: VTT Expert Services Ltd

试验单位地址/ Test Address: Kivimiehentie 4, Espoo, P.O.Box 1001, FI-02044 VTT, FINLAND

试验报告编号/ Test Report No. : VTT-S-07107-17 (typetestreport12_ver1.0_ENV-panels4-07107-17)

试验报告日期/ Test Report Date : 2018-05-14

试验单位/ Laboratory: VTT Expert Services Ltd

试验单位地址/ Test Address: Kivimiehentie 4, Espoo, P.O.Box 1001, FI-02044 VTT, FINLAND

试验报告编号/ Test Report No.: Software testing report Version: 03.04.01--3000.\$--Release-20A

试验报告日期/ Test Report Date: 2021-08-25

试验单位/ Laboratory: Navis Engineering Oy

试验单位地址/ Test Address:

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

按规范认可后应进行产品检验的产品/The product should be inspected 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 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.

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，检查工作应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 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.

备注/Remarks

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.

Intended for DP-1 and DP-2. For class notation DP-1, two or more position reference systems required are to be based on different principles.

Each delivery of the application system is to be drawing approved and product certificated case by case.

中国船级社斯德哥尔摩办事处
CCS Stockholm Office

注：本证书含有附页，共4页
Note: The certificate is attached with additional 4 page(s)

The NAVIS NavDP 4000 system consists of DP control station and independent joystick control station used in case of DP system failure. It has the following types:

- Single DP system with integrated joystick system (DP-1): DP Control Station + IJ Control Station;
- Dual-redundant DP system with integrated joystick system (DP-2): Redundant DP Control Station + IJ Control Station.

1. DP control station hardware

No.	Name	Type	Part no.	Manufacturer	Degree of Protection	Compass Safe Distance, mm
1	Control Computer	HTC03	000.JDP-29538-XXX	Hatteland	IP20	1150
		tBOX324-894-FL	000.JDP-29540-XXX 000.JDP-29541-XXX	Axiomtek	IP20	1150
		I330EAC-ITW	000.JDP-29546-000	Winmate	IP20	1150
		SBOX-100-QM87	000.JDP-29550-000	IEI	IP20	1150
2	LCD	Series X displays	000.JDP-29523-000 000.JDP-29530-000 000.JDP-29531-000 000.JDP-29532-000 000.JDP-29535-000 000.JDP-29543-000	Hatteland	IP66*	1000
		DuraVision FDS/FDU series	000.JDP-29533-XXX 000.JDP-29536-XXX	Eizo	IP65*	950
		R24L100-MRA1FP	000.JDP-29544-XXX	Winmate	IP66*	1000
3	Main Control Panel	MCP-B	000.JDP-26151-X00 000.JDP-26152-000	Navis Engineering Oy	IP56* / IP22	600
		MCP-7 / APH-7	000.JDP-26141-X00 000.JDP-26142-000	Navis Engineering Oy	IP56* / IP22	600

4	Portable Control Panel	PCP-7	000.JDP-26916-X00 000.JDP-26917-XXX 000.JDP-26918-000 000.JDP-26919-000 000.JDP-26920-000	Navis Engineering Oy	IP56	700
5	PCP Junction Box	PCP-JB	000.JDP-28304-000 000.JDP-28305-000	Navis Engineering Oy	IP66	800
6	Joystick 3-Axis	ZC06B	000.JP-29211-0X0	Caldaro	IP56	N/A
		KC06	000.JP-29212-0X0	Kwant	IP56	N/A
		L04	000.JP-29216-0X0	Lilaas	IP66	N/A
7	Alarm Speaker	FRS	000.JDP-29515-000	Visaton	IP22	1000
8	Communication Box	CB	000.JDP-28601-XXX ... 000.JDP-28619-XXX	Navis Engineering Oy	IP22	900
9	Control Unit	CU	000.JDP-42XXX- XXX	Navis Engineering Oy	IP22	750
10	Power Unit	PU	000.JDP-29121-000	Navis Engineering Oy	IP22	900
11	Alarm Printer	Laser Jet Pro series	088.HP3002DN	HP		500

2. Independent joystick control station hardware

No.	Name	Type	Part no.	Manufacturer	Degree of Protection	Compass Safe Distance, mm
1	Control Computer	HTC03	000.JDP-29538-XXX	Hatteland	IP20	1150
		tBOX324-894-FL	000.JDP-29540-XXX 000.JDP-29541-XXX	Axiomtek	IP20	1150
		I330EAC-ITW	000.JDP-29546-000	Winmate	IP20	1150
		SBOX-100-QM87	000.JDP-29550-000	IEI	IP20	1150

2	LCD	Series X displays	000.JDP-29523-000 000.JDP-29530-000 000.JDP-29531-000 000.JDP-29532-000 000.JDP-29535-000 000.JDP-29543-000	Hatteland	IP66*	1000
		DuraVision FDS/FDU series	000.JDP-29533-XXX 000.JDP-29536-XXX	Eizo	IP65*	950
		R24L100-MRA1FP	000.JDP-29544-XXX	Winmate	IP66*	1000
3	Main Control Panel	MCP-B	000.JDP-26151-X00 000.JDP-26152-000	Navis Engineering Oy	IP56* / IP22	600
		MCP-7 / APH-7	000.JDP-26141-X00 000.JDP-26142-000	Navis Engineering Oy	IP56* / IP22	600
4	Portable Control Panel	PCP-7	000.JDP-26916-X00 000.JDP-26917-XXX 000.JDP-26918-000 000.JDP-26919-000 000.JDP-26920-000	Navis Engineering Oy	IP56	700
5	PCP Junction Box	PCP-JB	000.JDP-28304-000 000.JDP-28305-000	Navis Engineering Oy	IP66	800
6	Joystick 3-Axis	ZC06B	000.JP-29211-0X0	Caldaro	IP56	N/A
		KC06	000.JP-29212-0X0	Kwant	IP56	N/A
		L04	000.JP-29216-0X0	Lilaas	IP66	N/A
7	Alarm Speaker	FRS	000.JDP-29515-000	Visaton	IP22	1000

8	Communication Box	CB	000.JDP-28601-XXX ...	Navis Engineering Oy	IP22	900
9	Control Unit	CU	000.JDP-42XXX- XXX	Navis Engineering Oy	IP22	750
10	Power Unit	PU	000.JDP-29121-000	Navis Engineering Oy	IP22	900

3. Other Components

No.	Name	Type	Part no.	Manufacturer	Degree of Protection	Compass Safe Distance, mm
1	Vertical Reference Sensor	Navis VRS	000.JDP-26602-000 000.JDP-26603-00X	Navis Engineering Oy	IP22	N/A
2	Serial Interface Distribution Unit	SI-DU24	000.JDP-29105-000 000.JDP-29113-000 000.JDP-29114-000 000.JDP-29115-000 000.JDP-29116-000	Navis Engineering Oy	IP22	900
3	I/O Unit	IO-U	000.JDP-23XXX-XXX	Navis Engineering Oy	IP44	750
4	Steering Mode Selector	SMS	000.ST-25200-XXX 000.ST-25300-XXX 000.ST-25302-XXX	Navis Engineering Oy	IP22	N/A
5	Surge Protection Unit	SPU	000.JDP-29107-000	Navis Engineering Oy	IP56	N/A

Note:

- 1) For control computer, LCD listed above, type approval certificates need to be provided for each specific case.
- 2) UPS, position reference system, Gyrocompass and wind velocity and direction gauge are not in the manufacturer's supply scope. For these components to be installed on board, type approval certificates need to be provided for each specific case.
- 3)* Front side