中国船级社
CHINA CLASSIFICATION SOCIETY

证书编号/Certificate No.
DB25PTB00050

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

Furuno Electric Co., Ltd.

地址/Address

9-52 Ashihara-cho, Nishinomiya City, Hyogo , Japan

产品名称/Product

卫星计程仪
Satellite Speed Log

认可标准/Approval Standard

1. 国际海事组织海安会决议MSC.116(73)《船用发送航向装置(THDs)的性能标准》
IMO Resolution MSC.116(73) Performance Standards for Marine Transmitting Heading Devices (THDs)
2. 国际海事组织海安会决议MSC.96(72)《通过速度、距离测量和指示装置性能标准 (A.824(19)决议)修正案》
IMO Resolution MSC.96(72) Adoption of Amendments to Performance Standards for Devices to Measure and Indicate Speed and Distance (Resolution A.824(19))
3. 国际海事组织海安会决议MSC.334(90)《通过航速和航程测量和指示装置性能标准(MSC.96(72)决议)修正案》
IMO Resolution MSC.334 (90) Amendments to Performance Standards for Devices to Measure and Indicate Speed and Distance (Resolution MSC.96(72))
4. 国际海事组织大会决议A.694(17)《作为全球海上遇险和安全系统（遇险和安全系统）组成部分的船载无线电设备和电子助航设备的一般要求》
IMO Resolution A.694(17) General Requirements for Shipborne Radio Equipment Forming Part of the Global Maritime Distress and Safety System (GMDSS) and for Electronic Navigational Aids
5. 国际海事组织海安会决议MSC.191(79)《船载航行显示器有关航行信息显示的性能标准》
IMO Resolution MSC.191(79) Performance Standards for the Presentation of Navigation-Related Information on Shipborne Navigational Displays
6. 国际海事组织海安会决议MSC.302(87)《通过驾驶室警报管理性能标准》
IMO Resolution MSC.302 (87) Adoption of Performance Standards for Bridge Alert Management
7. 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
8. 国际海事组织海安会决议MSC.466(101)《船载航行显示器显示航行相关信息性能标准（MSC.191(79)决议）修正案》
IMO Resolution MSC.466(101) AMENDMENTS TO THE PERFORMANCE STANDARDS FOR THE PRESENTATION OF NAVIGATION-RELATED INFORMATION ON SHIPBORNE NAVIGATIONAL DISPLAYS (RESOLUTION MSC.191(79))
9. IEC 62288:2021(Edition 3.0) 海上导航和无线电通信设备和系统 - 船载导航显示器导航相关信息的介绍 - 一

证书有效期至/This Certificate is valid until **2026年12月24日/ Dec. 24,2026**

发证机构 中国船级社大阪分社
Issued by CCS Osaka Branch

签发日期 2025年06月27日
Date Jun. 27,2025

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，可以向我社检验机构咨询。**本证书凡是未注明版本的规范，其（发证时）最新版本适用于本证书。**
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. **For Rules with no version indication, their latest version (at the time of issuance of the certificate) applies to the certificate.**

般要求 测试方法和所需的测试结果
IEC 62288:2021(Edition 3.0) Maritime navigation and radiocommunication equipment and systems - Presentation of navigation-related information on shipborne navigational displays-General requirements, methods of testing and required test results

用于/Intended for

船舶/Ships
用于对地测速/Speed Over the Ground

产品明细/Product Description

航速和航程测量装置（SDME）/Speed and Distance Measuring Equipment (SDME)(M0001)

名称/Name	属性（值）/Value	单位/Unit
型号/Type	GS-100	
系统组成/System Component	Antenna Unit: GS-1001B Display Unit: GS-1002 Junction Box: GS-1003	
额定电压/Rated Voltage	DC24	V
频率/Frequency	L1: 1575.42 ±1.023	MHz
距离显示/Distance Display	0.0 to 999999.9 0.00 to 999999.99	NM
距离精度/Range Accuracy	0.01	NM
速度范围/Range of Speed	Fore to Aft: -60.0 to +60.0 Port to Stbd: -60.0 to +60.0	kn
速度精度/Speed Accuracy	at antenna unit (satellite more than 5): 0.02 transervers speed at reference position (satellite more than 5): 0.08 satellite 3 or 4: 0.2	kn rms
测量范围/Measure Range	Heading Range: 0.0 to 359.9° or 0.00 to 359.99° Attitude Accuracy (Heading/Pitch/Roll): 0.4° rms	
罗经安全距离/Compass Safe Distance	GS-1001B: 0.70(STAND), 0.45(STEER) GS-1002: 1.40(STAND), 0.95(STEER) GS-1003: 0.75(STAND), 0.50(STEER)	m
外壳防护等级/Degree of Protection of Enclosure	GS-1001B: IP56 GS-1002: IP25 GS-1003: IP22	

批准的图纸/Approved Drawings

图纸批准号/ Drawings Approval No.: NP14A02120

产品认可试验报告/ Approval Test Report

试验报告编号/ Test Report No.： K20-17-828/-974/-975/-977
试验报告日期/ Test Report Date： 2014-01-18
试验单位/ Laboratory: FURUNO ELECTRIC CO., LTD.
试验单位地址/ Test Address: 9-52, Ashihara-cho, Nishinomiya, 662-8580, Japan

试验报告编号/ Test Report No.： FLI 12-13-124/-125/-138/-139/-143/-145/-146
试验报告日期/ Test Report Date： 2014-02-17
试验单位/ Laboratory: Furuno Labotech International Co., Ltd.
试验单位地址/ Test Address: 1-16 Fukazu-cho Nishinomiya-shi Hyogo 663-8203 Japan

试验报告编号/ Test Report No.： DB14T00142
试验报告日期/ Test Report Date： 2014-12-19
试验单位/ Laboratory: FURUNO ELECTRIC CO., LTD.
试验单位地址/ Test Address: 1 Tomoe, Bessho-cho, Miki, 673-0443, Japan

试验报告编号/ Test Report No.： LIC 12-17-113/114/115/116
试验报告日期/ Test Report Date： 2017-10-23
试验单位/ Laboratory: LABOTECH INTERNATIONAL CO., LTD.
试验单位地址/ Test Address:

试验报告编号/ Test Report No.： DB18T00127
试验报告日期/ Test Report Date： 2018-10-30
试验单位/ Laboratory: FURUNO ELECTRIC CO., LTD.
试验单位地址/ Test Address: 9-52, Ashihara-cho, Nishinomiya, 662-8580, Japan

试验报告编号/ Test Report No.： LIC 12-19-010
试验报告日期/ Test Report Date： 2019-01-31
试验单位/ Laboratory: LABOTECH INTERNATIONAL CO., LTD.
试验单位地址/ Test Address:

试验报告编号/ Test Report No.： LIC 12-20-179
试验报告日期/ Test Report Date： 2020-11-27
试验单位/ Laboratory: LABOTECH INTERNATIONAL CO., LTD.
试验单位地址/ Test Address:

试验报告编号/ Test Report No.： K20-17-1662/1663
试验报告日期/ Test Report Date： 2021-03-08
试验单位/ Laboratory: FURUNO ELECTRIC CO., LTD.
试验单位地址/ Test Address:

试验报告编号/ Test Report No.： LIC 12-21-081/082/083/84
试验报告日期/ Test Report Date： 2021-07-02
试验单位/ Laboratory: LABOTECH INTERNATIONAL CO., LTD.
试验单位地址/ Test Address:

试验报告编号/ Test Report No.： DB22PTB00090
试验报告日期/ Test Report Date： 2022-12-16
试验单位/ Laboratory: FURUNO ELECTIRC CO., LTD.
试验单位地址/ Test Address:

试验报告编号/ Test Report No.： LIC 12-24-141
试验报告日期/ Test Report Date： 2025-01-22
试验单位/ Laboratory: Labotech International Co., Ltd.
试验单位地址/ Test Address: 1-16, Fukazu-cho, Nishinomiya-shi, Hyogo, 663-8203 Japan

试验报告编号/ Test Report No.： DB25PTB00050
试验报告日期/ Test Report Date： 2025-06-27
试验单位/ Laboratory: Furuno Electric Co., Ltd.
试验单位地址/ Test Address: 1, Tomoe, Bessho-cho, Miki, Hyogo, Japan

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.

备注/Remarks

1. 卫星计程仪包含航速和航程测量装置及艏向传送装置（全球卫星导航方式）。
The Satellite Speed Log includes Speed Distance Measuring Equipment (SDME) & Transmitting Heading Device THD (GNSS Method).
2. 本证书由原型式认可证书（No. DB22PTB00090）变更并替代原证书。
This Certificate is modified from and supersedes the previous Type Approval Certificate No. DB22PTB00090.
3. 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.

中国船级社大阪分社
CCS Osaka Branch