



中国船级社
CHINA CLASSIFICATION SOCIETY

证书编号/Certificate No.
JS22PTB00448_03

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

江苏海兰船舶电气系统科技有限公司
Jiangsu Highland Integration Technology Co., Ltd.

地址/Address

江苏省南通市苏通科技产业园清枫路199号
No.199, Qingfeng Road, Sutong Science Park, Nantong City, Jiangsu

产品名称/Product

船用陀螺罗经系统
Marine Gyro-compass System
电罗经
Electric Gyro-Compass

附加标志/Notations

无/Nil.

认可标准/Approval Standard

- 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
- 国际海事组织A.424(XI)决议:电罗经性能标准
IMO Resolution A.424(XI):Performance standards for gyro-compasses
- 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



证书有效期至/This Certificate is valid until 2026年03月27日/Mar. 27,2026

发证机构/Issued by 中国船级社江苏分社
CCS Jiangsu Branch

签发日期/Date 2022年12月22日
Dec. 22,2022

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:P023-51700910

产品明细/Product Description**电罗经/Electric Gyro-Compass (M0001)**

名称/Name	属性(值)/Value	单位/Unit
型号/Type	HLD-GC100	
动态精度/Dynamic Accuracy	$\pm 1.0^{\circ} \times \sec \phi (\phi : \text{latitude})$	
稳定点误差/L.M. Settle Point Error	$\pm 0.75^{\circ} \times \sec \phi (\phi : \text{latitude})$	
艏向精度/Heading Accuracy	$\pm 0.25^{\circ} \times \sec \phi (\phi : \text{latitude})$	
复示分罗经数量/Quantity of Repeater Compass	最多10个复示分罗经 Maximum 10 digital repeaters	
软件版本号/Software Version	V1.X	
系统组成/System Component	详见附页 See additional page	
稳定时间/Settling Time	<4h	
电源/Power Source	AC110/220V, 50~60Hz; DC24V	
外壳防护等级/Degree of Protection of Enclosure	详见附页 See additional page	

批准的图纸/Approved Drawings

图纸批准号/Drawings Approval No.: NP12A00453, NP22PPP00893

产品认可试验报告/ Approval Test Report

试验报告编号/ Test Report No.: TR-HLD-GC100-202203

试验报告日期/ Test Report Date: 2022-03-22

试验单位/ Laboratory: 江苏海兰船舶电气系统科技有限公司 Jiangsu Highland Integration Technology Co.,Ltd

试验单位地址/ Test Address: 江苏省南通市经济技术开发区苏通科技产业园清枫路199号 No.199,Qingfeng Road, Sutong Science Park, Nantong, Jiangsu

试验报告编号/ Test Report No.: A12-061-ZC

试验报告日期/ Test Report Date: 2012-11-15

试验单位/ Laboratory: 上海仪器仪表自控系统检验测试所 Shanghai Inspection and Testing Institute and Automatic Systems

试验单位地址/ Test Address: 中国上海漕宝路103号 103 Cao Bao Road, Shanghai

试验报告编号/ Test Report No.: HLD-GC-130320

试验报告日期/ Test Report Date: 2013-03-28

试验单位/ Laboratory: 北京海兰信数据科技股份有限公司 Beijing Highlander Digital Technology Co., Ltd

试验单位地址/ Test Address: 北京海淀区中关村东路1号清华科技园科技大厦C座1902室 C1902 SPTower, Tsinghua Science Park, Haidian District, Beijing, China

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.

本证书由原型式认可证书（No. NJ18T00030）变更并换新。

This certificate is modified and renewed from the previous Type Approval Certificate No. NJ18T00030.

中国船级社江苏分社

CCS Jiangsu Branch

注：本证书含有附页，共1页

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

产 品 明 细/Product Description

序号 No.	主要组成部件 Main Components	部件型号 Part Model	磁罗经安全距离 Magnetic Compass Safety Distance	外壳防护等 级 IP
1	主罗经/Master Compass	4201	100cm	IP22
2	操作单元/Operation Unit	4204	40cm	IP22
3	电源单元/Power Supply Unit	4203	75cm	IP22
4	分配单元（选配） /Distribution Unit (Option)	4202	95cm	IP22
5	舵机舱分罗经（选配） /Steering Compass Repeater (Option)	4211	--	IP44
6	方位分罗经（选配） /Bearing Compass Repeater (Option)	4210	--	IP56
7	分罗经（选配） /Compass Repeater (Option)	HLD-RP200	--	IP22