



中国船级社
CHINA CLASSIFICATION SOCIETY

证书编号/Certificate No.
JS26PTB00012_01

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

舵角指示系统
Rudder angle indication system

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
- ISO 20673-2007《船舶和海上技术-电子舵角指示系统》
ISO 20673-2007 Ships and marine technology - Electric rudder angle indicators
- 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

国际航行海船/International sea-going ship

产品明细/Product Description

舵角指示器/Rudder Angle Indicator (M0001)

名称/Name	属性(值)/Value	单位/Unit
型号/Type	HLD-RAIS100	
电源/Power Source	AC110/220 or DC24	V

证书有效期至/This Certificate is valid until 2031年03月27日/Mar. 27,2031

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

签发日期/Date 2026年03月16日
Mar. 16,2026

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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:P026-30716591

指示范围/Indication Range	±45°	
指示误差/Indication Error	<0.5°	
响应时间/Response Time	< 3	s
罗经安全距离/Compass Safe Distance	87	cm
系统组成/System Component	见附页 See Additional Page	
外壳防护等级/Degree of Protection of Enclosure	见附页 See Additional Page	

批准的图纸/Approved Drawings

图纸批准号/ Drawings Approval No. : TJ11A00027, NP22PPP00852

产品认可试验报告/ Approval Test Report

试验报告编号/ Test Report No. : A11-073-ZC

试验报告日期/ Test Report Date : 2011-10-15

试验单位/ Laboratory: 上海仪器仪表自控系统检测测试所 Shanghai Inspection and Testing Institute of Instruments and Automatic System

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

试验报告编号/ Test Report No. : HLD-RD-130902

试验报告日期/ Test Report Date : 2013-09-12

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, No.1 Zhongguancun East Road, Haidian District, Beijing, China

试验报告编号/ Test Report No. : HLD-RAIS100-202203

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

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

按规范只认可不进行产品检验的产品/The product approved only in term of the rules:

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检验，经检验合格后由制造厂签发合格证明，并连同该产品的本社认可证书复印件一并交付用户，制造厂对产品符合公约、法规、本社规范和本社认可的标准规定负责。

After approval, product inspection should be carried out by the Manufacturer in accordance with the product inspection scheme approved by the Society. Upon satisfactory inspection, and the Quality Certificate issued by the Manufacturer should be provided to the purchaser together with the copy of the approval certificate issued by the Society. The manufacturer should take responsibility for the product being in compliance with the convention, statutory regulation, the Society rules and the standard accepted by the Society.

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. 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 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. JS21PTB00390) 换新并替代原证书。

This certificate is renewed from and supersedes the previous Type Approval Certificate No. JS21PTB00390.

本产品已依照IACS UR E26 Rev.1第6章和 CCS《船舶网络安全指南》(2024)第1.4节的相关要求申请了船舶网络安全低风险豁免, 见“船载计算机系统网络安全低风险声明”(编号: JS26PFA00011_01), 该豁免最终应结合船舶实际安装场景获得CCS 最终批准。

This product has applied for a low risk exemption for ship cyber security in accordance with the relative requirements of IACS UR E26 Rev.1 chapter 6 and CCS Guidelines for Ship Cyber Security 2024 section 1.4, as stated in the "Statement of compliance with low risk acceptance criteria" (No. JS26PFA00011_01). The exemption should ultimately be approved by CCS based on the actual installation scenario of the ship.

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.	系统组成 System Component	部件型号 Part Model	外壳防护等级 Degree of Protection of Enclosure
1	舵角发送单元 Rudder Angle Transmission Unit	HLD-RTU100	IP56
2	连接分配单元 Connection and Distribution Unit	HLD-CDU100	IP22
3	三面舵角指示单元 Three Faces Rudder Angle Indication Unit	HLD-TRU100	IP22
4	壁挂式舵角指示单元 Wall Rudder Indication Unit	HLD-WRU100-144	IP56
		HLD-WRU100-192	
5	面板式舵角指示单元 Panel Rudder Angle Indication Unit	HLD-PRU100-72	IP22
		HLD-PRU100-96	
		HLD-PRU100-144	
		HLD-PRU100-192	
6	调光单元 Dimming Unit	HLD-DMU100	IP22
7	报警显示单元 Alarm display unit	HLD-AD200	IP22