



中国船级社
CHINA CLASSIFICATION SOCIETY

证书编号/Certificate No.
JS25PTB00199_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

船舶操舵控制系统
Ship Steering Gear Control System

附加标志/Notations

无/Nil.

认可标准/Approval Standard

1. 《1974年国际海上人命安全公约》第II-1章第29条
Item 29, Chapter II-1 of INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974
2. MSC. 64(67) 决议附件3《航向控制系统性能标准建议书》
Annex 3 of Resolution MSC. 64(67) Recommendation on Performance Standards for Heading Control Systems
3. 中国船级社《钢质海船入级规范》第3篇第13章
Chapter 13, Part Three of China Classification Society Rules for Classification of Sea-Going Steel Ships
4. ISO 11674-2019《船舶及航海技术—航向控制系统》
ISO 11674-2019, Ships and marine technology - Heading control systems
5. 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》
IEC60945:2002/COR1:2008 Maritime Navigation and Radiocommunication Equipment and Systems – General Requirements – Methods of testing and Required Test Results
6. 中国船级社《船舶网络安全指南》(2024)第1、2、3章
Chapter 1, 2, 3 of China Classification Society Guidelines for Ship Cyber Security (2024)
7. IACS UR E27 (Rev.1) 船载系统和设备网络韧性
IACS UR E27 (Rev.1) Cyber resilience of on-board systems and equipment

证书有效期至/This Certificate is valid until 2030年06月23日/ Jun. 23,2030

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 2025年08月08日
Aug. 08,2025

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，可以向本社检验机构咨询。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.

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:P025-53122255

用于/Intended for

国际航行海船/International Sea-going Ships, 国内航行海船/Domestic sea-going ship

产品明细/Product Description

航向控制系统（HCS）/Heading Control System (HCS) (M0001)

名称/Name	属性（值）/Value	单位/Unit
型号/Type	HLD-SC600	
电源/Power Source	AC220/380/440, 50/60Hz, DC24V	
随动操舵跟踪误差/Error of Follow-Up Steering	$\leq \pm 0.5^\circ$	
航向灵敏度/Course Sensitivity	$\leq \pm 1^\circ$	
控制容量/Capacity	< 0.15 kVA	
操舵方式/Steering Method	自动操舵、随动操舵、应急手动、两翼操舵四种模式 including AUTO, FU, NFU and Wing Steering	
系统组成/System Component	详见附页 See Additional Pages	
软件版本号/Software Version	V3. X	

批准的图纸/Approved Drawings

图纸批准号/ Drawings Approval No. : TJ10A00006, NP15A02852

产品认可试验报告/ Approval Test Report

试验报告编号/ Test Report No. : A10-024-ZC-02

试验报告日期/ Test Report Date : 2010-08-05

试验报告编号/ Test Report No. : HLD-RD-130802

试验报告日期/ Test Report Date : 2013-08-13

试验报告编号/ Test Report No. : A15-070-WT

试验报告日期/ Test Report Date : 2016-01-26

试验报告编号/ Test Report No. : HLD0500XS-202106

试验报告日期/ Test Report Date : 2021-06-03

试验报告编号/ Test Report No. : SI25PTCCV035

试验报告日期/ Test Report Date : 2025-08-05

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

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. JS21PTB00085_01) 变更并换新。

This certificate is modified and renewed from the previous Type Approval Certificate No. JS21PTB00085_01.

网络安全等级: SL0。

Cyber Security Class: SL0

5. 本产品支持不直接与不可信网络连接，不支持无线访问管理和无线使用控制。

This product does not supports direct connection to untrusted networks and does not support wireless access management and wireless control.

6. 公司应记录软件的所有变更。软件的重大变更应通知本社，并提交相关文件进行评估。如果评估认定该变更会影响到规范中要求的功能，应重新进行相关型式试验，并进行型式认可的相关变更。

All changes in software are to be recorded by the manufacturer. Significant software changes should be notified to the China Classification Society and relevant documents should be submitted for assessment. If the assessment confirms that the change will affect the function required in the rules, relevant type test should be carried out again, and type approval need to be modified.

7. 结合具体项目申请本社检验时，以下文件应提交批准：CBS资产清单、网络系统拓扑图、配置核查报告。

The following documentation of the specific base individual application is to be submitted for approval in each case: CBS asset inventory ;Topology diagrams ;Test report for configuration of security capabilities.

8. 制造厂应确保产品的开发遵循安全开发生命周期中各阶段的网络安全要求，编制相应的程序和安全更新文件应持续有效，并符合本社《船舶网络安全指南》及IACS UR E27要求。

The manufacturer shall ensure that the development of products meets the cyber security requirements at each stage of Secure Development Lifecycle, and develop corresponding procedures and security update documents that are continuously effective and comply with CCS "Guidelines for Ship Cyber Security" and IACS UR E27 requirements.

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)

船舶操舵控制系统 HLD-SC600 系统组成
Components of Ship Steering Gear Control System HLD-SC600

序号/No	部件名称/Name of Part	型号/Type	防护等级/IP
1	供电单元/Power Supply Unit	HLD-PSU200	IP22
2	非随动单元/Non-Follow-Up Unit	HLD-NFUV200	IP22
3	随动单元/Follow-Up Unit	HLD-FU200	IP22
4	操舵控制单元/Steering Control Unit	HLD-SCU600	IP22
5	操舵接线终端/Steering Connection Terminals	HLD-SCT600	IP22
6	舵角反馈单元/Rudder Feedback Unit	HLD-RFU600	IP44
7	连杆系统/Lever Drive System	HLD-LD600	IP44
8	模式选择开关/Steering Mode Switch	HLD-SW200	IP22
9	报警显示单元/Alarm Display Unit	HLD-ADU600	IP22
10	自动控制单元/Automatic Control Unit	HLD-ACU600	IP22
11	信号接线单元/Signal Connection Terminals	HLD-ACT600	IP22
12	外部操舵接口单元(选配)/External Steering Interface Unit(option)	HLD-ESIU600	IP22
13	继电器(选配)/Relay(option)	HLD-RE200	IP22
14	泵组选择开关(选配)/Rudder Pump System Switch(option)	HLD-RPS200	IP22
15	舵机启动箱(选配)/Steering Gear Pump Starter(option)	HLD-SGS600	IP22
16	舵机报警简操箱(选配)/Steering Gear Alarm & NFU Control Box(option)	HLD-SAC600	IP22
17	舵机报警面板(选配)/Steering Alarm Display Unit(option)	HLD-SAD600	IP22
18	分罗经(选配)/Compass Repeater(option)	HLD-RP200	IP22
19	简易随动单元(选配)/Simplified Follow-Up Unit(option)	HLD-SFU600	IP22
20	远程请求单元(选配)/Remote Request Unit(option)	HLD-RRU600	IP22