



中国船级社
CHINA CLASSIFICATION SOCIETY

证书格式号/Form: T01.02-SH000025

型式认可证书
CERTIFICATE OF TYPE APPROVAL

证书编号/Certificate No. NJ18T00010_04

兹证明本证书所述制造厂生产的下列产品能够满足下面列明认可标准的要求。

This is to certify that the following products produced by the manufacturer stated in the certificate can meet the requirements of the approval standards listed below.

认可产品/ Product Approved

船舶操舵控制系统

Ship Steering Gear Control System

自动操舵仪

AUTO PILOT

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.

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 Province

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案》第3、4、6、7、8章
Chapter 3, 4, 6, 7, 8 of RECOMMENDATION ON PERFORMANCE STANDARDS FOR HEADING CONTROL SYSTEMS - Annex 3 of Resolution MSC. 64(67)
- 3.中国船级社《钢质海船入级规范》(2015)及其修改通报 第3篇 第13章
Chapter 13, Part 3 of China Classification Society "Rules for Classification of Sea-Going Steel Ships"(2015) and its Amendments
- 4.ISO11674-2006《船舶及航海技术--航向控制系统》
ISO11674-2006, Ships and marine technology - Heading control systems
- 5.IEC60945:2002海上导航和无线电通讯设备及系统 一般要求 试验方法和要求的试验结果
IEC60945:2002. Maritime navigation and radiocommunication equipment and system - General requirements - methods of testing and required test results

证书有效期至/ This Certificate is valid until

2021年6月23日 / Jun. 23, 2021

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

签发日期 2018年3月5日
Date Mar. 5, 2018

本证书根据中国船级社《钢质海船入级规范》及有关程序规定签发。关于证书的有关规定见本证书背面的说明。当本证书包括多页纸张时，则所有证书页为一个整体，必须同时使用。每一页证书均须由本社盖章方为有效。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。本认可证书不代表本社对个体产品质量的检验。有关各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 for Classification of Sea-going Steel Ships and related procedures of the Society. Refer to the back of the certificate for detailed requirements of the certificate. When the certificate consists of more than one page, all pages of the certificate are taken as a whole and are used simultaneously. No certificate page is valid without bearing the stamp of the Society 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. This approval certificate does not constitute the inspection of the Society about the quality of the unit/batch product. Related parties who are doubted about the authenticity of the certificate may inquire of the Society or its offices.



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本地检验机构/CCS Local Office: 中国船级社江苏分社 CCS Jiangsu Branch 电话/Tel: 0086-25-66688999 传真/Fax: 0086-25-58757734

NJ38879090
N: 17382993

产品明细/ Product Description

| | |
|---|--|
| 自动操舵仪/AUTO PILOT | |
| 产品型号/Type | : HLD-SC200 |
| 额定电压/Rated Voltage | : AC220/380/440V, 50/60Hz, DC24V |
| 控制容量/Capacity | : < 0.15 kVA |
| 工作方式/Steering Mode | : 自动操舵、随动操舵、应急手动、两翼操舵四种模式 Four modes including AUTO, FU, NFU and Wing Steering |
| 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 | : $\leq \pm 1^\circ$ |
| 最大限舵角/Steering Limited | : $\pm 35^\circ$ |
| 自动操舵功能有效工作区域/Effective Working Area of Automatic Steering | : 南纬60° 和北纬60° 之间的海域 The range of south and north latitude of 60° at the sea |
| 外壳防护等级/Degree of Protection of Enclosure | : 见附页 See additional pages |
| 系统组成/Components | : 见附页 See additional pages |
| 软件版本号/Software Version | : HLD-SC200 V2.011 |
| 自动操舵仪/AUTO PILOT | |
| 产品型号/Type | : HLD-SC600 |
| 额定电压/Rated Voltage | : AC220/380/440, 50/60Hz, DC24V |
| 控制容量/Capacity | : < 0.15 kVA |
| 工作方式/Steering Mode | : 自动操舵、随动操舵、应急手动、两翼操舵四种模式 Four modes including AUTO, FU, NFU and Wing Steering |
| 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 | : $\leq \pm 1^\circ$ |
| 最大限舵角/Steering Limited | : $\pm 35^\circ$ |
| 自动操舵功能有效工作区域/Effective Working Area of Automatic Steering | : 南纬60° 和北纬60° 之间的海域 The range of south and north latitude of 60° at the sea |
| 外壳防护等级/Degree of Protection of Enclosure | : 见附页 See additional pages |
| 系统组成/Components | : 见附页 See additional pages |
| 软件版本号/Software Version | : HLD-SC600 V1.X |

批准的图纸和设计计算书/ Approved Drawings and Design Calculations

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 |
| 试验单位/ Laboratory | : 上海仪器仪表自控系统检测测试所 Shanghai Inspection and Testing Institute of Instrument and Automatic Systems |
| 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-130802 |
| 试验报告日期/Test Report Date | : 2013-08-13 |
| 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 | : 北京市海淀区中关村东路1号清华科技园科技大厦C座1902室 No. 199, Qingfeng Road, Sutong Science Park, Nantong, Jiangsu |
| 试验报告编号/Test Report No. | : 17060500-026 |
| 试验报告日期/Test Report Date | : 2017-05-26 |
| 试验单位/ Laboratory | : 江苏海兰信船舶设备有限公司 Jiangsu Highlander Marine 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 |

产品适用范围/ Application of the Product



国际航行海船/International sea-going ship

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, 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, 检查工作可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 periodical audit should be carried out within 3 months before and after the anniversary date which corresponds to the date of expiry of the relevant.

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

按照规范每批抽样检验的产品/The product inspected by sampling 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每批抽样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 sampling 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.

对于原材料和零部件的检验要求/ Inspection Requirements for Materials and Components

产品如下原材料和零部件应由本社认可的制造厂生产/The following materials and components of the product should be manufactured by the factory approved by the Society:无/Nil

产品如下原材料和零部件应经本社检验/The following materials and components of the product should be inspected by the Society:无/Nil

产品如下原材料和零部件的制造厂清单, 经本社批准方可变更/The list of manufacturer for the following materials and components of the product should not be changed without the Society's approval:
液晶触摸屏/Crystal screen, 电源模块/Power module, 万转开关/Multiuse changeover switch, 电位器/Potentiometer

责任声明/Statement of Responsibility

本社的认可不影响、替代与本社授权或检验无关的各方对上述工厂的认可和发证, 并且不对与本社授权或检验无关的各方负责, 不承担其未经应允而承认、接受本社认可所导致的法律和经济责任。

The approval of the Society does not affect and replace any approval and certification of the manufacturer by any parties that bear no relation with this Society's authorization or survey and therefore takes no responsibility for these parties. The Society does not undertake any legal and economic liabilities arising from accepting this Society's certificate without prior permission from this Society.

其他/Others

本证书由原型式认可证书 (No. NJ17T00091) 变更并替代原证书。

This Certificate is modified from and supersedes the previous Type Approval Certificate No. NJ17T00091.



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.

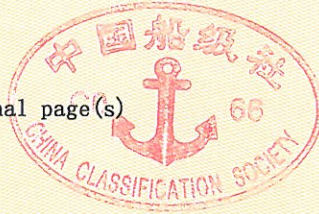
中国船级社江苏分社

CCS Jiangsu Branch

*****本证书正文完/ End of Text*****

注：本证书含有附页，共2页

Note: The certificate is attached with 2 additional page(s)



船舶操舵控制系统 HLD-SC200 系统组成
Components of Ship Steering Gear Control System HLD-SC200

| 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 | 模式选择开关(Steering Mode Switch) | HLD-SW200 | IP22 |
| 3 | 随动单元(Follow-Up Unit) | HLD-FU200 | IP22 |
| 4 | 非随动单元(Non-Follow-Up Unit) | HLD-NFUV200 | IP22 |
| 5 | 舵角反馈单元(Rudder Feedback Unit) | HLD-RF200 | IP44 |
| 6 | 连杆系统(Lever Drive System) | HLD-LD200 | IP44 |
| 7 | 操舵接口单元(Steering Interface Unit) | HLD-SI200 | IP22 |
| 8 | 报警控制单元(Alarm Control Unit) | HLD-AL200 | IP22 |
| 9 | 报警显示单元(Alarm Display Unit) | HLD-AD200 | IP22 |
| 10 | 自动控制单元(Automatic Control Unit) | HLD-AC200 | IP22 |
| 11 | 自动操作单元(Operation Unit) | HLD-OP200 | IP22 |
| 12 | 越控单元(Override Unit) | HLD-OV200 | IP22 |
| 13 | 泵组选择开关(Rudder Pump System Switch) | HLD-RPS200 (选配/option) | IP22 |
| 14 | 扩展报警显示模块(Extended Alarm Display Panel) | HLD-EAD200 (选配/option) | IP22 |
| 15 | 两翼控制单元(Wing Steering Unite) | HLD-WS200 (选配/option) | IP22 |
| 16 | 本地/远程操舵转换开关(Local/Bridge Steering Unit) | HLD-LBS200 (选配/option) | IP44 |
| 17 | 接线终端(Connection Terminals) | HLD-CT200 (选配/option) | IP22 |
| 18 | 分罗经(Compass Repeater) | HLD-RP200 (选配/option) | IP22 |



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 | 非随动单元(Non-Follow-Up Unit) | HLD-NFUV200 | IP22 |
| 2 | 随动单元(Follow-Up Unit) | HLD-FU200 | IP22 |
| 3 | 操舵控制单元(Steering Control Unit) | HLD-SCU600 | IP22 |
| 4 | 操舵接线终端(Steering Connection Terminals) | HLD-SCT600 | IP22 |
| 5 | 舵角反馈单元(Rudder Feedback Unit) | HLD-RFU600 | IP44 |
| 6 | 连杆系统(Lever Drive System) | HLD-LD600 | IP44 |
| 7 | 模式选择开关(Steering Mode Switch) | HLD-SW200 | IP22 |
| 8 | 报警显示单元(Alarm Display Unit) | HLD-ADU600 | IP22 |
| 9 | 自动控制单元(Automatic Control Unit) | HLD-ACU600 | IP22 |
| 10 | 信号接线单元(Signal Connection Terminals) | HLD-ACT600 | IP22 |
| 11 | 外部操舵接口单元(External Steering Interface Unit) | HLD-ESIU600 (选配/option) | IP22 |
| 12 | 继电器(Relay) | HLD-RE200 (选配/option) | IP22 |
| 13 | 泵组选择开关(Rudder Pump System Switch) | HLD-RPS200 (选配/option) | IP22 |
| 14 | 舵机启动箱(Steering Gear Pump Starter) | HLD-SGS600 (选配/option) | IP22 |
| 15 | 舵机报警简操箱(Steering Gear Alarm & NFU Control Box) | HLD-SAC600 (选配/option) | IP22 |
| 16 | 舵机报警面板(Steering Alarm Display Unit) | HLD-SAD600 (选配/option) | IP22 |
| 17 | 分罗经(Compass Repeater) | HLD-RP200 (选配/option) | IP22 |
| 18 | 简易随动单元(Simplified Follow-Up Unit) | HLD-SFU600 (选配/option) | IP22 |
| 19 | 远程请求单元(Remote Request Unit) | HLD-RRU600 (选配/option) | IP22 |

