



中国船级社
CHINA CLASSIFICATION SOCIETY

证书编号/Certificate No.
JS24PTB00178_02

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

综合导航系统
Integrated Navigation Systems

认可标准/Approval Standard

- 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
- 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
- 国际海事组织海上安全委员会决议IMO MSC. 252 (83)《经修订的综合航行系统 (INS) 性能标准》
IMO MSC.252(83) Adoption of The Revised Performance Standards for Integrated Navigation Systems (Ins)
- 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
- 国际海事组织海上安全委员会决议IMO MSC. 302 (87)《桥楼报警管理》
IMO MSC.302(87) Adoption of Performance Standards for Bridge Alert Management
- 国际海事组织海上安全委员会决议IMO MSC. 452 (99)《经修订的综合航行系统 (INS) 性能标准》(MSC, 252 (83)) 修正案
IMO Resolution MSC.452(99) Amendment of MSC.252(83) Adoption of The Revised Performance Standards for Integrated Navigation Systems (INS)
- 国际海事组织海安会决议 MSC. 466 (101) 关于《船载航行显示器有关航行信息显示的性能标准》(MSC. 191 (79)) 的修正案
IMO Resolution MSC.466(101) Amendment of MSC.191(79) Performance Standards for the Presentation of Navigation Related Information on Shipborne Navigational Displays.
- 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)
- 中国船级社《船载系统和设备网络韧性》
China Classification Society Shipborne Systems and Equipment Network Resilience

证书有效期至/This Certificate is valid until 2027年09月21日/ Sep. 21,2027

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02月10日
Feb. 10, 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 this 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:P024-69663340

IACS UR E27(Rev.1) Cyber resilience of on-board systems and equipment

用于/Intended for

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

产品明细/Product Description

综合航行系统（INS）/Integrated Navigation System (M0001)

名称/Name	属性（值）/Value	单位/Unit
型号/Type	HLD-INS 600	
电源/Power Source	AC110/220V, 50/60Hz, or DC24V	
软件版本号/Software Version	Version 1.X	
系统组成/System Component	详见附页 See additional page	
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. : NP14A00422, NP14A04054, NP15A01805, NP17A02067, NP19PPP03227, NP24PPP00463, NP24PPP03573

产品认可试验报告/ Approval Test Report

试验报告编号/ Test Report No. : A15-006-ZC
试验报告日期/ Test Report Date : 2015-04-08

试验报告编号/ Test Report No. : HLD5100CG23
试验报告日期/ Test Report Date : 2023-09-07

试验报告编号/ Test Report No. : HLD5100CG19
试验报告日期/ Test Report Date : 2019-09-19

试验报告编号/ Test Report No. : 20150213001/20150213002
试验报告日期/ Test Report Date : 2015-05-28

试验报告编号/ Test Report No. : 23TAS06P20D32-80100
试验报告日期/ Test Report Date : 2024-01-31

试验报告编号/ Test Report No. : SI24PTCCV012
试验报告日期/ Test Report Date : 2025-02-03

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 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. JS23PTB00137_04）变更并替代原证书。

This Certificate is modified from and supersedes the previous Type Approval Certificate No. JS23PTB00137_04.

网络安全等级：SL0。

Cyber Security Class: SL0.

本产品不支持无线访问管理，无线使用控制。

This product does not support wireless access management, wireless controlling.

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。

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 will be modified.

中国船级社江苏分社

CCS Jiangsu Branch

注：本证书含有附页，共3页

Note: The certificate is attached with additional 3 page(s)

综合导航系统产品组成/system components of integrated navigation systems

S 波段雷达系统/S-BAND RADAR

序号	部件名称/name of part	型号/Type	防护等级
1	主控单元/main unit	HLD-MCU200or HLD-MCU600or HLD-MCU750or HLD-MCU770	IP22
2	显示单元/display unit	HLD-DU112or HLD-DU133or HLD-DU134or HLD-DU135or HLD-DU138or HLD-DU140or HLD-DU141or HLD-DU142or HLD-DU160or HLD-DU161or HLD-DU162or HLD-DU163or HLD-DU164or HLD-DU165	IP22
3	人机交互单元/human interface unit	HLD-IU600	IP22
4	电源转换单元/power conversion unit	HLD-PCU600	IP22
5	雷达天线/radar antenna	HLD-AT112	IP56
6	收发单元/transceiver unit	HLD-TU130	IP56

X 波段雷达系统/X-BAND RADAR

序号	部件名称/name of part	型号/Type	防护等级
1	主控单元/main unit	HLD-MCU200or HLD-MCU600or HLD-MCU750or HLD-MCU770	IP22
2	显示单元/display unit	HLD-DU112or HLD-DU133or HLD-DU134or HLD-DU135or HLD-DU138or HLD-DU140or HLD-DU141or HLD-DU142or HLD-DU160or HLD-DU161or	IP22

		HLD-DU162or HLD-DU163or HLD-DU164or HLD-DU165	
3	人机交互单元/human interface unit	HLD-IU600	IP22
4	电源转换单元/power conversion unit	HLD-PCU600	IP22
5	雷达天线/radar antenna	HLD-AT104or HLD-AT106or HLD-AT108	IP56
6	收发单元/transceiver unit	HLD-TU110or HLD-TU125	IP56

1. 电子海图显示与信息系统/ECDIS

序号	部件名称/name of part	型号/Type	防护等级
1	主控单元/main unit	HLD-MCU200or HLD-MCU600or HLD-MCU750or HLD-MCU770	IP22
2	显示单元/display unit	HLD-DU109 or HLD-DU110 or HLD-DU112 or HLD-DU133 or HLD-DU134 or HLD-DU135 or HLD-DU138 or HLD-DU140 or HLD-DU141 or HLD-DU142 or HLD-DU161 or HLD-DU162 or HLD-DU163 or HLD-DU164 or HLD-DU165	IP22
3	人机交互单元/human interface unit	HLD-IU600	IP22
4	一体机单元/All-in-one machine	HLD-MCS100or HLD-MCS110	IP22
5	电源转换单元/power conversion unit	HLD-PCU600	IP22

2. 综合信息显示系统/CONNING

序号	部件名称/name of part	型号/Type	防护等级
1	主控单元/main unit	HLD-MCU200or HLD-MCU600or HLD-MCU750or HLD-MCU770	IP22

2	显示单元/display unit	HLD-DU112or HLD-DU133or HLD-DU134or HLD-DU135or HLD-DU138or HLD-DU140or HLD-DU141or HLD-DU142or HLD-DU161or HLD-DU162or HLD-DU163or HLD-DU164or HLD-DU165	IP22
3	人机交互单元/human interface unit	HLD-IU600	IP22
4	电源转换单元/power conversion unit	HLD-PCU600	IP22

5 其他信息/Others

序号	部件名称/name of part	型号/Type	防护等级
1	网络交换机/LAN Switch	HLD-LS600	IP22
2	信号转换单元/Signal Convert Unit	HLD-SCU600	IP22