



中国船级社
CHINA CLASSIFICATION SOCIETY

证书编号/Certificate No.
BG25PTB00010

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

Kongsberg Maritime AS (Longva)

地址/Address

Longvafjordvegen 379, NO-6293 Longva, Norway

产品名称/Product

推进装置遥控系统

Remote Control System for Thrusters, Propulsion and Steering

附加标志/Notations

无/Nil.

认可标准/Approval Standard

- 中国船级社《钢质海船入级规范》第3篇第9, 11, 13章
Chapter 9, 11 and 13 Part There of China Classification Society Rules for Classification of Sea-going Steel Ships
- 中国船级社《钢质海船入级规范》第7篇第2章
Chapter 2 Part Seven of China Classification Society Rules for Classification of Sea-going Steel Ships
- 中国船级社《钢质海船入级规范》第4篇第1, 2, 3章
Chapter 1, 2 and 3 Part Four of China Classification Society Rules for Classification of Sea-going Steel Ships
- 中国船级社《钢质海船入级规范》第8篇第11, 15章
Chapter 11, 15, Part Eight of China Classification Society Rules for the Classification of Sea-going Steel Ships
- 中国船级社《船舶网络安全指南》2025
China Classification Society Guidelines for Ship Cyber Security, 2025
- IACS UR E27 (Rev. 1)

用于/Intended for

船舶/Ships

证书有效期至/ This Certificate is valid until 2031年02月11日 / Feb. 11, 2031

发证机构 中国船级社卑尔根办事处
Issued by CCS Bergen Office

签发日期 2026年02月12日
Date Feb. 12, 2026

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，可以向我社检验机构咨询。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:P026-36727949



产品明细/Product Description**推进装置遥控系统/Propulsion Machinery Control System (M0001)**

名称/Name	属性(值)/Value	单位/Unit
产品名称/Product Name	Remote Control System for Thrusters, Propulsion and Steering	
型号/Type	Mcon	
软件版本号/Software Version	Listed on the additional page	
系统组成/System Component	Listed on the additional page	
网络安全等级/Cyber Security Class	SL0	

批准的图纸/Approved Drawings

图纸批准号/ Drawings Approval No. : NP25PPP02906, NP25PPP01625

产品认可试验报告/ Approval Test Report

试验报告编号/ Test Report No. : 0026~H0203~0000089130

试验报告日期/ Test Report Date : 2017-03-09

试验单位/ Laboratory: Thales Nederland B.V.

试验单位地址/ Test Address: Netherland

试验报告编号/ Test Report No. : 9505 331 695XX 001

试验报告日期/ Test Report Date : 2017-05-21

试验单位/ Laboratory: Thales Nederland B.V.

试验单位地址/ Test Address: Netherland

试验报告编号/ Test Report No. : 20216

试验报告日期/ Test Report Date : 2014-05-23

试验单位/ Laboratory: Applica Test & Certification AS

试验单位地址/ Test Address: Norway

试验报告编号/ Test Report No. : 20053

试验报告日期/ Test Report Date : 2013-11-19

试验单位/ Laboratory: Applica Test & Certification AS

试验单位地址/ Test Address: Norway

试验报告编号/ Test Report No. : E21159. 01

试验报告日期/ Test Report Date : 2021-08-25

试验单位/ Laboratory: Nemko

试验单位地址/ Test Address: Norway

试验报告编号/ Test Report No. : DANAK-198195

试验报告日期/ Test Report Date : 2025-12-19

试验单位/ Laboratory: DANAK

试验单位地址/ Test Address: Danmark

试验报告编号/ Test Report No. : 622-20078-10-R0

试验报告日期/ Test Report Date : 2022-05-04

试验单位/ Laboratory: DELTA Development Technology AB

试验单位地址/ Test Address: Sweden

试验报告编号/ Test Report No. : REC-E702792

试验报告日期/ Test Report Date : 2011-04-08

试验单位/ Laboratory: DELTA Development Technology AB

试验单位地址/ Test Address: Sweden

试验报告编号/ Test Report No. : E21088. 03

试验报告日期/ Test Report Date : 2021-12-28

试验单位/ Laboratory: Nemko

试验单位地址/ Test Address: Norway

试验报告编号/ Test Report No. : E22111. 00

试验报告日期/ Test Report Date : 2022-08-16

试验单位/ Laboratory: Nemko
 试验单位地址/ Test Address: Norway

试验报告编号/ Test Report No. : 0026~H0203~0000213260
 试验报告日期/ Test Report Date : 2021-08-02
 试验单位/ Laboratory: Thales Nederland B.V.
 试验单位地址/ Test Address: Netherland

试验报告编号/ Test Report No. : E21194. 01
 试验报告日期/ Test Report Date : 2021-12-14
 试验单位/ Laboratory: Nemko
 试验单位地址/ Test Address: Norway

试验报告编号/ Test Report No. : E15269. 00
 试验报告日期/ Test Report Date : 2016-01-06
 试验单位/ Laboratory: Nemko
 试验单位地址/ Test Address: Norway

试验报告编号/ Test Report No. : E21176. 00
 试验报告日期/ Test Report Date : 2021-10-07
 试验单位/ Laboratory: Nemko
 试验单位地址/ Test Address: Norway

试验报告编号/ Test Report No. : E21159. 01
 试验报告日期/ Test Report Date : 2021-08-25
 试验单位/ Laboratory: Nemko
 试验单位地址/ Test Address: Norway

试验报告编号/ Test Report No. : 0026~H0203~0000213312
 试验报告日期/ Test Report Date : 2021-11-12
 试验单位/ Laboratory: Thales Nederland B.V.
 试验单位地址/ Test Address: Netherland

试验报告编号/ Test Report No. : 0026~H0203~2020062206A
 试验报告日期/ Test Report Date : 2021-11-12
 试验单位/ Laboratory: Thales Nederland B.V.
 试验单位地址/ Test Address: Netherland

试验报告编号/ Test Report No. : 110-0053461 version F by ABS
 试验报告日期/ Test Report Date : 2025-11-12
 试验单位/ Laboratory: Kongsburg
 试验单位地址/ Test Address: Norway

试验报告编号/ Test Report No. : 110-0053461 version F by DNV
 试验报告日期/ Test Report Date : 2024-11-21
 试验单位/ Laboratory: Kongsburg
 试验单位地址/ Test Address: Norway

试验报告编号/ Test Report No. : 110-0053461 version F by LR
 试验报告日期/ Test Report Date : 2025-02-13
 试验单位/ Laboratory: Kongsburg
 试验单位地址/ Test Address: Norway

试验报告编号/ Test Report No. : 20157
 试验报告日期/ Test Report Date : 2025-01-12
 试验单位/ Laboratory: Applica Test & Certification AS
 试验单位地址/ Test Address: Norway

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

1. 本产品不支持直接与不可信网络连接, 不支持无线访问, 本系统硬件以及访问界面应设置在受控物理区域
This product does not support direct connection to untrusted networks and does not support wireless access. All hardware devices and accessible interfaces in the CBS shall be installed in areas with physical access restrictions

2. 如实际产品交付时重大变化 (含硬件及软件) 应通知CCS, 若变化明显影响本社相关要求时, 可能需要进行型式试验, 签发新的认可证书。

Major changes to the type-approved system affecting future deliveries shall be informed to CCS. If the changes are considered to affect functionality for which rule requirements apply, a new functional type test may be required, and the certificate may have to be renewed to identify the new version.

3. 工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 the 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

4. 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.

5. Mcon 系统单船设计图纸应经由本社产品审图中心批准。

For each designed vessel, the Mcon system drawing should be submitted to the Products Plan Approval Center for approval.

6. 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 the 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.

中国船级社卑尔根办事处

CCS Bergen Office

注: 本证书含有附页, 共2页

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

The Mcon system description

The Mcon Propulsion, thruster and steering gear control (PTSC) system is a processor-based system for controlling the thrust units of the vessel. i.e., controlling thrusters (Tunnel Thrusters or Azimuth thrusters), main propellers and rudders.

The Mcon hardware components

Category	Name	Products number
Operator Station	8" Panel Computer	000123971
	10.4" Panel Computer	RRM000603363 RRM000483816
	12" Panel Computer	000124787
Controller	H1151.6059 Marine Controller	000110313
	H1170 Marine Controller	488531 RRM000471733
Network Switch	Managed Ethernet switch Lynx	RRM000376790
	L210-F2G	RRM000376886
CAN bus Infrastructure	CAN Rail Module	000117803
	PSI-REP-DNET CAN repeater	RRM000272777
Serial Interface	HT 00262 OPTA3	RRM000644018
Lever	Lever G2	000114574 000122040 000114575 000114576 000122041 000122042 000122043 000122044 RRM000353541 RRM000357317 RRM000480571 RRM000480573 000104154 000104155 000104156 000104157 000104162 000112159 000110624 RRM000460995 000104146 000104147 000104148 000104149 000125251 000104150 000104151 000104152 000104153 RRM000377686 RRM000377687
	Lever G3	RRM000385830 RRM000385831

		RRM000385832 RRM000385833 RRM000385835 RRM000385836
Button Panels	Button Panel G2–MMS, NFU	000126062 000127586 RRM000413829 RRM000438977 000117799 000117800 000117801
	Buzzer panel COPALC05	RRM000464627
I/O Module	B&R X20 IO Module System	-
	B&R X20 Bus Module	000108227
	B&R X20 Comm.Module	000110698
Indicators	TRI-2, sCAN	000116903
	BW144, sCAN	000116886 000116887
	Xdi 144/192	000121597 000121367 000109171 000115831
	XL series, sCAN	000116908 000116909 000116910 000116911 000116912 000116913 000116914 000116906 000117951 000116907 000117952 RRM000513229 RRM000434500

The Mcon software information

The software of the system is consisted with following main versions:

-Operator Station version 8" Panel Computer, 10.4" Panel Computer & 12" Panel Computer
KM – Embedded Operating System version 1.5.x.

HMI Application version 4.7.x.

Control System Application version 1.9.x.

-Controller version

H1151.6059 Marine Controller & H1170 Marine Controller

KM – Embedded Operating System version 1.5.x.

Control System Application version 1.9.x.

-Managed Ethernet switch version Lynx

WeOS version 4.3x.x.