



中国船级社
CHINA CLASSIFICATION SOCIETY

证书编号/Certificate No.
BG24PTB00016_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

Kongsberg Maritime AS (Kongsberg)

地址/Address

Kirkegardsveien 45, P.O. Box 483, NO-3601 Kongsberg, Norway

产品名称/Product

动力定位控制系统
Dynamic Positioning Control System

附加标志/Notations

无/Nil.

认可标准/Approval Standard

- IMO MSC.1 第1580号通函 船舶和装置的动力定位 (DP) 系统指南
IMO MSC.1 Circ.1580 - Guidelines for Vessels and Units with Dynamic Positioning (DP) Systems
- 中国船级社《钢质海船入级规范》第7篇第2章, 第8篇第11章
Chapter 2, Part Seven & Chapter 11, Part Eight of China Classification Society Rules for Classification of Sea-going Steel Ships
- 中国船级社《海上移动平台入级规范》第9篇第4章
Chapter 4, Part Nine of China Classification Society "Rules for Classification of Mobile Offshore Units"
- IACS UR E27 (Rev. 1)
- 中国船级社《船舶网络安全指南》(2024)
China Classification Society Guidelines for Ship Cyber Security (2024)

用于/Intended for

船舶/Ships



证书有效期至/This Certificate is valid until 2026年12月16日/ Dec. 16,2026

发证机构/中国船级社北京根办事处
Issued by CCS Beijing Office

签发日期 2025年11月05日
Date Nov. 05,2025

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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:P025-22194364

产品明细/Product Description**动力定位控制系统/Dynamic Positioning Control System (M0001)**

名称/Name	属性(值)/Value	单位/Unit
型号/Type	KONGSBERG K-Pos DP; K-Pos PM; K-Pos DPM; cJoy	
系统组成/System Component	Refer to the additional pages	

批准的图纸/Approved Drawings

图纸批准号/ Drawings Approval No. : NP18A00367;NP23PPP04997;NP25PPP03166

产品认可试验报告/ Approval Test Report

试验报告编号/ Test Report No. : Refer to the additional pages

试验报告日期/ Test Report Date :

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.

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

1. 本证书由原型式认可证书 (No. BG23PTB00016_01) 变更并替代原证书。
This Certificate is modified from and supersedes the previous Type Approval Certificate No. BG23PTB00016_01.
2. 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.

中国船级社卑尔根办事处
CCS Bergen Office

注: 本证书含有附页, 共4页
Note: The certificate is attached with additional 4 page(s)

1.The following equipment and functions are included in the Type Approval:

1.1 Types and relationships of the system are as follows:

Dynamic Positioning Control Systems (K-Pos DP);
Position Mooring Control System (K-Pos PM);
Combined Dynamic Positioning and Position Mooring System (K-Pos DPM);
Independent Joystick Control System (cJoy);
cJoy DP-OT as part of K-Pos DP and K-Pos DPM;
cWing as part of K-Pos (OS), cJoy OT (cJoy) and cJoy DP-OT.

1.2 The main hardware of the system

●Main processing units (one of the following):

- Dynamic Positioning Controller with process unit(s);
-cC Series Compact Controller with process unit.

●Operating Station/Terminal (at least one of the following):

-K-Pos OS, Operator Station for K-Pos DP/DPM/PM(including built-in versions);
-K-Thrust OS, Operator Station as part of Thruster Control(including built-in versions);
-cJoy OT ,Operator Terminal for cJoy;
-cJoy DP-OT, DP Operator Terminal (Additional Operating Terminal);
-cWing, Remote Wing Terminal.

●Hardware list:

--Operating Station/Terminal:

cJoy Operator Terminal, Mk4
cWing Mk3 Built-in and Portable

--OS Computer:

MC360 i3 LAN (Lenovo P360 Tiny),
MC340 i3 LAN (Lenovo P340 Tiny)

--Accessories

L2C module
Moxa NPort-5200 Serial
Adapter USB to 1 serial RS232
Adapter USB to 1 serial RS422
Adapter USB to 4x RS232 DB9M
Veinland USB Extender VL-66298 Receiver
Veinland USB Extender VL-66298 Transmitter

--Power Unit:

Power Supply, PRO TOP1 24V 10A,
Power Supply, PRO TOP1 24V 5A,
PSU TRIO-PS-2G/1AC/24DC/5/B+D
Phoenix Contact Qunit-PS/1AC/24DC/10A,
Phoenix Contact Qunit-PS/1AC/24DC/5A,

--Panel Modules

COP-05 ALC Panel
COP-05 BU-DP Panel
COP-05 Heading Wheel Panel
COP-05 Input Panel
COP-05 Standalone Trackball
Kwant Controls KC 06-K Joysticks

--Main display:

Display 27" FHD ECDIS S MK4
Display 27" FHD ECDIS KM05 MK4
Display 27" FHD ECDIS G MK2
Display 32" FHD ECDIS G MK1
Display 55" UHD ECDIS G MK1

Display 27" FHD XE MK2;
Display ISIC 10" & 15" XT MK1
Display 22" FHD X MK1,
Display 22" FHD XT MK1,
Display 24" FHD XE MK1,
Display 24" FHD XTE MK1,
Display 32" UHD XE MK1,

--Network Modules

Router Moxa EDR-G9010 Series,
Router Moxa EDR-8010 Series,
Switch Moxa IKS-6700A Series,
Switch Moxa IKS-6728A,
Switch Moxa EDS-205A series,
Switch Moxa EDS-208A series,
Switch Moxa EDS-308 series,
Switch Moxa EDS-316 series,
Switch Moxa EDS-408A series,
Switch Moxa EDS-518E Series,
Router Cisco C1121X-8P,
Router Cisco C891-24X/K9,
Cisco switch HN C1000-24T-4G-L
Cisco switch HN C1000-24T-4X-L
Cisco switch WS-C1000-24T-4G-L

--I/O Modules

RCU601 Module
RCU602 Module
RHUB200-5
RMP200-8
RMP201-8
RSER200-4

--Printer

A4 CS431dw for Bridge
A4 CS521dn for Bridge

1.3 .The software Versions of the system are as follows:

-DP basis release 8.5 update 3 onwards;

1.4.Operation modes are as follows:

-Standby;
-Joystick;
-Auto Heading;
-Auto Position;
-Anchor Handling;
-Position Mooring;
-Auto Track (move up, low speed, high speed);
-Track Line;
-Seismic Track;
-Follow Target;
-Dredge;
-Modes related to Offshore Loading.

1.5.Main function of the system:

-Thruster Allocation;
-Power load monitoring and blackout prevention;
-Integration with K-Power (Kongsberg integrated energy products) (from DP basis release 8.4);
-Alarm/Alert system;
-Display system;
-Chart Server Application;

- Monitoring functions;
 - Heavy Lift;
 - Pipelay;
 - DP Alert;
 - Drilling;
 - DP Online Consequence analysis;
 - DP Capability analysis;
 - Motion Prediction Analysis;
 - Econometer (from DP basis release 8.4);
 - Position Mooring Consequence analysis.
- *The available hardwares, modes and system functions depend on the system type and configuration.

1.6 Network of the system is as follows:

- The controller and OS can provide the Dual Ethernet or CAN etc. interfaces;
- The switches for the network should be installed.

2.For each designed vessel, the drawing of DP control systems should be submitted for approval to the Society Plan Approval Center.

3.Manufacturing places include as below:

- (1) Kongsberg Maritime AS, Bekkajordet 8A, 3189 Horten, Norway;
- (2) Kongsberg Maritime AS, Kirkegårdsveien 45, 3616 Kongsberg, Norway;
- (3) Kongsberg Maritime China Ltd., No. 136 North FuTe Road, China (Shanghai), Pilot Free Trade Zone, 200131 Shanghai, China.

4. The cyber security levels of this systems is SL0 as per CCS Guidelines for Ship Cyber Security 2024

5. Item 14.6, Appendix 2A, Chapter 3, Part one of China Classification Society Rules for Classification of Seagoing Steel Ships should be complied with for the third-party parts which are not listed in this certificate.

6. Documentation for this approval

Test Report No.	Main Equipment Under Test	Date
Accessories		
487708/03	ENV Report for KM Modules up to IACS E10 rev.8	-
412374/A	ENV Test Report for Marine Approval of L2C	2016.02.15
494564/A	Moxa NPort-52xx EMC Test Report (IACS E10 Rev7)	2022.01.11
464983/C	Serial Adapters RS232/422 TR For those two adapters: 457971-Adapter USB to 1 serialRS232 459962-Adapter USB to 1 serial RS422	2020.07.08
416665/A	Test Report for Moxa NPort 5232-T related to IEC 61162-1, by KM with DNV GL	2016.06.18
110-0043603/A	Veinland USB Extender VL-6629x, EMC Test Report	2022.09.08
110-0043600/A	Veinland USB Extender VL-6629x, Environmental Test Report	2022.10.20
Network Modules		
494556/A	Moxa EDS-316 EMC Test Report (IACS E10 Rev 7)	2021.01.18
110-0037824/A	Moxa IKS-6700A Series Marine Type Approval Test Report	2015.11.18
110-0062481/A	Router Moxa EDR-8010 Series, IEC 60945 Test Report	2023.05.02
110-0068860/A	Switch Moxa EDS-205A series, Test Report No.: 2370018R-E3012100075-A	2023.10.03
110-0068867/A	Switch Moxa EDS-208A series, Test Report No.: 1750281R-ITCEP16V00	2017.06.06
110-0068865/A	Switch Moxa EDS-208A series, Test Report No.:	-

	2110219R-E3012300001	
110-0068872/A	Switch Moxa EDS-308 series, Test Report No.: 2110234R-E3012300001	2017.07.14
110-0068874/A	Switch Moxa EDS-316 series, Test Report No.: 2110223R-E3012300001	-
110-0068877/A	Switch Moxa EDS-408A series, Test Report No.: 17A0322R-ITCEP16V00	2018.07.16
110-0068875/A	Switch Moxa EDS-408A series, Test Report No.: 2110219R-E3012300001	-
110-0068885/A	Switch Moxa IKS-6728A, Test Report No.: 2090946R-E3012300003	2020.09.30
489200/A	Test Report E21229.00, Cisco switch HN C1000- 24T-4G-L and HN C1000-24T-4X- L, Environmental Test Report	2022.03.04
492312/B	Test report E21236.00, Router Cisco C1121X-8P, Environmental Test Report	2022.06.04
110-0122859/A	Router Moxa EDR-G9010 Series, IEC 60945 Test Report	-
493277/A	System Test Report CISCO Switch_WS-C1000 - 24T-4G-L	2022.01.18
110-0066090/C	Switch MOXA EDS-518E Series, Test Reports	-
Operator Terminals		
110-0039194/B	cJoy Mk4, Environmental Test Report. According to DNVGL-CG-0339:2019, IACS E10 Rev.8:2021, IEC/EN 60945:2002 + Cor1:2008	2024.03.12
491274/B	cWing Mk3, Environmental Test Report. According to DNVGL-CG-0339:2019, IACS E10 Rev.8:2021, IEC/EN 60945:2002 + Cor1:2008	2022.11.18
Panel Module		
487708/03	ENV Report for KM Modules up to IACS E10 rev.8	-
110-0063651/A	ENV Test Report Panel MK3 COP 05	2024.01.17
355954/-	Type approval testing of KM Common Operator Panela 2005.	2007.06.15
338108/-	Type approval testing of Tracker Ball Stand Alone Panel. DANAK-1910612-A/B. Project no.: A506311-1.	2009.09.15
REP004874	Verification Test of Color laser printer with ethernet and USB intended for use in maritime environments	-
Nemko E21088.03	Verification Test of the marine range of Kongsberg Maritime for IACS E10 Rev.8	-
Remote I/O Modules		
469729/01	ENV Report Flame Retardant	2021.10.27
487708/03	ENV Report for KM Modules up to IACS E10 rev. 8	2021.10.28
482733/03	ENV Test Report RHUB200-5	2021.06.24
383971/B	Test for Marine Type approval of RCU602 & RMC-ST	2017.04.28
314243/A	Type approval testing of New RIO HW Line modules RCU501, RSER200-4, RHUB200-5 and RMP200-8	2006.10.17
110-0040379/-	ENV Test report RCU601	2023.03.16
Printers		
110-0053579/A	Printer A4 CS431dw for Bridge Testreport	2023.08.24
System		
110-0076887	Cyber security test for K-Pos	2024.08.08

Blank bellowing.