



中国船级社
CHINA CLASSIFICATION SOCIETY

证书编号/Certificate No.
BG22PTB00011

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

综合测量、监控报警及控制系统
Integrated Gauging, Monitoring & Alarm and Controlling System

附加标志/Notations

无/Nil.

认可标准/Approval Standard

1. 中国船级社《钢质海船入级规范》（2022）及其变更通告第4篇第3章
Chapter 3, Part Four of China Classification Society Rules for Classification of Sea-going Steel Ships 2021 and its Change Notices
2. 中国船级社《钢质海船入级规范》（2022）及其变更通告第7篇第2章
Chapter 2, Part Seven of China Classification Society Rules for Classification of Sea-going Steel Ships 2021 and its Change Notices

用于/Intended for

船舶与海上设施/Ships and Offshore Installations

证书有效期至/ This Certificate is valid until 2026年01月07日/ Jan. 07, 2026

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

签发日期/ Date 2022年07月06日
Jul. 06, 2022

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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:P022-28278770

产品明细/Product Description

综合测量、监控报警及控制系统/Integrated Gauging, Monitoring & Alarm and Controlling System (M0001)

名称/Name	属性(值)/Value	单位/Unit
型号/Type	K-Chief 700, K-Chief, K-Safe	
系统组成/System Component	Refer to additional pages	

批准的图纸/Approved Drawings

图纸批准号/ Drawings Approval No. : BG18A00015

产品认可试验报告/ Approval Test Report

试验报告编号/ Test Report No. : E22067. 01
 试验报告日期/ Test Report Date : 2022-04-20
 试验单位/ Laboratory: Nemko
 试验单位地址/ Test Address: Philip Pedersens vei 11, 1366 Lysaker, Norway

试验报告编号/ Test Report No. : E19144. 00
 试验报告日期/ Test Report Date : 2019-08-19
 试验单位/ Laboratory: Nemko
 试验单位地址/ Test Address: Norway

试验报告编号/ Test Report No. : 198508 A503547-1
 试验报告日期/ Test Report Date : 2006-10-17
 试验单位/ Laboratory: DANAK
 试验单位地址/ Test Address: Denmark

试验报告编号/ Test Report No. : 198575 DELTA-A504273-3
 试验报告日期/ Test Report Date : 2006-12-04
 试验单位/ Laboratory: DANAK
 试验单位地址/ Test Address: Denmark

试验报告编号/ Test Report No. : 198577 DELTA-A504327-2
 试验报告日期/ Test Report Date : 2006-12-04
 试验单位/ Laboratory: DANAK
 试验单位地址/ Test Address: Denmark

试验报告编号/ Test Report No. : 198637 DELTA-A504352-1
 试验报告日期/ Test Report Date : 2007-01-30
 试验单位/ Laboratory: DANAK
 试验单位地址/ Test Address: Denmark

试验报告编号/ Test Report No. : 198696 A504446-1
 试验报告日期/ Test Report Date : 2007-03-15
 试验单位/ Laboratory: DANAK
 试验单位地址/ Test Address: Denmark

试验报告编号/ Test Report No. : 193886 K 250600-3
 试验报告日期/ Test Report Date : 1998-06-08
 试验单位/ Laboratory: DANAK
 试验单位地址/ Test Address: Denmark

试验报告编号/ Test Report No. : 198195 A503298-1 Rev. 1
 试验报告日期/ Test Report Date : 2007-06-15
 试验单位/ Laboratory: DANAK
 试验单位地址/ Test Address: Denmark

试验报告编号/ Test Report No. : 1910121 A505138
 试验报告日期/ Test Report Date : 2008-03-27
 试验单位/ Laboratory: DANAK
 试验单位地址/ Test Address: Denmark

试验报告编号/ Test Report No. : 1910264 A505037
 试验报告日期/ Test Report Date : 2008-09-01

试验单位/ Laboratory: DANAK
试验单位地址/ Test Address: Denmark

试验报告编号/ Test Report No. : 1910280 A505687
试验报告日期/ Test Report Date : 2008-09-19
试验单位/ Laboratory: DANAK
试验单位地址/ Test Address: Denmark

试验报告编号/ Test Report No. : 1910281 A505749 Rev. 1
试验报告日期/ Test Report Date : 2008-10-14
试验单位/ Laboratory: DANAK
试验单位地址/ Test Address: Denmark

试验报告编号/ Test Report No. : 1910541 A506114
试验报告日期/ Test Report Date : 2009-06-11
试验单位/ Laboratory: DANAK
试验单位地址/ Test Address: Denmark

试验报告编号/ Test Report No. : 1910979 A506924-1
试验报告日期/ Test Report Date : 2010-07-13
试验单位/ Laboratory: DANAK
试验单位地址/ Test Address: Denmark

试验报告编号/ Test Report No. : 1910830 A506580
试验报告日期/ Test Report Date : 2010-03-19
试验单位/ Laboratory: DANAK
试验单位地址/ Test Address: Denmark

试验报告编号/ Test Report No. : 1911523 A507567
试验报告日期/ Test Report Date : 2011-08-19
试验单位/ Laboratory: DANAK
试验单位地址/ Test Address: Denmark

试验报告编号/ Test Report No. : 19/12618 T202566
试验报告日期/ Test Report Date : 2012-11-21
试验单位/ Laboratory: DANAK
试验单位地址/ Test Address: Denmark

试验报告编号/ Test Report No. : KLM1.00.061
试验报告日期/ Test Report Date : 2002-01-09
试验单位/ Laboratory: Kongsberg Fimas
试验单位地址/ Test Address: Norway

试验报告编号/ Test Report No. : TI 310-03-0319
试验报告日期/ Test Report Date : 2004-10-28
试验单位/ Laboratory: Teknologisk Institutt
试验单位地址/ Test Address: Norway

试验报告编号/ Test Report No. : TI 3010-08-0107
试验报告日期/ Test Report Date : 2008-04-14
试验单位/ Laboratory: Teknologisk Institutt
试验单位地址/ Test Address: Norway

试验报告编号/ Test Report No. : E15165.01
试验报告日期/ Test Report Date : 2017-04-28
试验单位/ Laboratory: Nemko
试验单位地址/ Test Address: Norway

试验报告编号/ Test Report No. : 1912904 Rev. 1 E14127.00
试验报告日期/ Test Report Date : 2014-05-21
试验单位/ Laboratory: DANAK
试验单位地址/ Test Address: Denmark

试验报告编号/ Test Report No. : 239956
试验报告日期/ Test Report Date : 2013-12-20
试验单位/ Laboratory: Nemko
试验单位地址/ Test Address: Norway

试验报告编号/ Test Report No. : E18081.00

试验报告日期/ Test Report Date : 2018-04-23
试验单位/ Laboratory: Nemko
试验单位地址/ Test Address: Norway

试验报告编号/ Test Report No. : E13012.00
试验报告日期/ Test Report Date : 2013-01-25
试验单位/ Laboratory: Nemko
试验单位地址/ Test Address: Norway

试验报告编号/ Test Report No. : E13144.03
试验报告日期/ Test Report Date : 2017-08-17
试验单位/ Laboratory: Nemko
试验单位地址/ Test Address: Norway

试验报告编号/ Test Report No. : TI 310-02-0208
试验报告日期/ Test Report Date : 2004-05-24
试验单位/ Laboratory: Teknologisk Institutt
试验单位地址/ Test Address: Norway

试验报告编号/ Test Report No. : 197537 E 502029-3
试验报告日期/ Test Report Date : 2004-07-06
试验单位/ Laboratory: DANAK
试验单位地址/ Test Address: Denmark

试验报告编号/ Test Report No. : 39760
试验报告日期/ Test Report Date : 2005-02-25
试验单位/ Laboratory: Nemko
试验单位地址/ Test Address: Norway

试验报告编号/ Test Report No. : 69187
试验报告日期/ Test Report Date : 2006-08-31
试验单位/ Laboratory: Nemko
试验单位地址/ Test Address: Norway

试验报告编号/ Test Report No. : E21088.03
试验报告日期/ Test Report Date : 2021-10-28
试验单位/ Laboratory: NEMKO
试验单位地址/ Test Address: Philip Pedersens vei 11, P.O. Box 91, 1366 Lysaker, Norway

试验报告编号/ Test Report No. : E19238.00
试验报告日期/ Test Report Date : 2019-12-18
试验单位/ Laboratory: Nemko
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. BG21PTB00016) 变更并替代原证书。。

This Certificate is modified from and supersedes the previous Type Approval Certificate No. BG21PTB00016.

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3页

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

Product Description

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

K-Chief 700:

Equipment and basic Alarm, Monitoring and Control functionality, including:

- Operator Station
- History Station
- Field Station
- Network

Vessel related functionality, these functions can typically include:

- Watch call (alarm extension systems)
- Power Management
- Machinery Control
- Cargo Control
- Ballast Control
- Vessel Performance Monitoring System
- Vessel Mode Control
- Heating, Venting and Air Conditioning Controls

K-Chief:

Equipment and basic Alarm, Monitoring and Control functionality, including:

- Operator Station
- History Station
- I/O Solutions
- Network

Vessel related functionality, these functions can typically include:

- Watch call (alarm extension systems)
- Power Management
- Machinery Control
- Cargo Control
- Ballast Control
- Vessel Performance Monitoring System
- Vessel Mode Control
- Heating, Venting and Air Conditioning Controls

K-Safe:

Alarm Management System:

- Alarm Monitoring
- Alarm System

Emergency Shutdown System (ESD):

- K-Safe 3 (1oo2 redundancy), Dual I/O
- K-Safe 2 (1oo2 computer redundancy), Shared I/O

Process Shutdown System (PSD):

- K-Safe 3 (1oo2 redundancy), Dual I/O
- K-Safe 2 (1oo2 computer redundancy), Shared I/O
- K-Safe 1 (single system)

Fire and Gas Detection and Protection System (F&G):

- K-Safe 3 (1oo2 redundancy), Dual I/O
- K-Safe 2 (1oo2 computer redundancy), Shared I/O
- K-Safe 1 (single system)

Common for K-Chief 700 and K-Safe:

AIM Basis Software Release 8.3, 8.5, 8.6, 8.7, 8.8 and 8.10 for the above functions used in K-Chief 700, K-Chief and K-Safe.

Specific for K-Chief:

The K-Chief Hardware components which are common with the K-Chief 600 and AutoChief C20 & 600, are listed in the type approval certificate BG22PTB00010_01 for K-Chief 600 and BG22PTB00010_02 for AutoChief C20, AutoChief 600.

Hardware components which are specific for the K-Chief, K-Chief 700 and K- Safe systems are listed in this certificate.

Module	Product Description	Part No.	HW module descr. No.	Location Classes	Compass Safe Distance
Cabinets	FS400 Cabinet	700933		**	
	FS240 Cabinet	701449		**	
	NDU AX Cabinet	469925		**	
	FS 120 Cabinet	318775		**	
Console	Cabinet / OS-650-KM05	603495	1012662	IP22	350 mm
	Wire Isolators / KM damper kit	603185			
	Deep Line / Navigation OS	303399			
	Rubber isolation / MS2040+	305083			
COP-05	Input Panel Mk2 COP 05	330951	300984	B/B/A/A/*	350 mm
	Panel CRP Mk2 COP 05	330952	300989	B/B/A/A/*	350 mm
	ALC Panel	603526	300977	B/B/A/A/*	300 mm
	BU AUT Panel	603529	301028	B/B/A/A/*	250 mm
	Panel BU DP	603530	300983	B/B/A/A/*	350 mm
	Panel ALC NAV	603527	301021	B/B/A/A/*	350 mm
	Panel BU NAV	603528	301026	B/B/A/A/*	350 mm
	Panel BU TC	603531	301025	B/B/A/A/*	350 mm
	Panel ALC NAV Stand Alone	378937	383188	B/B/A/A/*	350 mm
EFI	EFI-16	321492	324876	B/B/A/A/IP20	500 mm
Media Converter	Fiber Converter RMC-ST	321520	325472	B/B/A/B/IP20	200 mm
Printer	OKI ML1190		454647	***	
	Canon LBP623Cdw		459842	***	
Watch Call	WCC600	373860	381827	B/B/B/B/IP44	1200 mm
Controller	RCU602	383962	429804	B/B/A/B/IP20	300 mm
	RCU502i	421768	408644	B/B/A/B/IP20	300 mm
IO Units	RMP420	306712	311165	B/B/A/B/IP20	50 mm
	RMP420S	306712	323936	B/B/A/B/IP20	50 mm
	RDIOR420	306713	311163	B/B/A/B/IP20	50 mm
	RDIO420S	316564	323936	B/B/A/B/IP20	1850 mm
	RMP422i	408442	424828	B/B/A/B/IP20	350 mm
	RMP422Si	408406	424829	B/B/A/B/IP20	350 mm
	RMP200-8	603443	300992	B/B/A/B/IP20	50 mm
	Other	RSER200-4	603444	300993	B/B/A/B/IP20
	RMP201-8 Module	324400	330111	B/B/A/B/IP20	50 mm
	RHUB200-5	603442	300994	B/B/A/B/IP20	50 mm

Remark:

Components marked with "***" are cabinets, tested for shock and vibration.

Printers, (marked with "***"), are tested for radiated disturbance/emissions only.

Location classes in the table above are denoted in the following sequence:

Temperature / Humidity / Vibration / EMC / Enclosure class

Where enclosure class is denoted as "**", required enclosure protection according to the rules to be provided upon installation onboard.

Where compass safe distance is not listed, a minimum distance of 5 meters shall be applied according to section 6.3 in ISO 694:2000.

3. For each designated vessel, the drawing of K-Chief 700 and K-Safe should be submitted for approval to the CCS Plan Approval Center.

4. The hardware was tested and found in compliance with the requirements of IACS E10: 2021(rev 8).

5. Manufacturing places include as below

- (1) Kongsberg Maritime AS, Bekkajordet 8A, 3189 Horten, Norway
- (2) Kongsberg Maritime Korea Ltd, 9-7, Sandan 3-ro, Jeonggwan-eup, Gijang-gun, Busan, 46027, Korea
- (3) Kongsberg Maritime AS (Kongsberg) Kirkegardsveien 45, NO-3601 Kongsberg, Norway
- (4) Kongsberg Maritime China Waigaoqiao Ltd., No. 136 North FuTe Road, China (Shanghai), Pilot Free Trade Zone, 200131 Shanghai, China
- (5) Kongsberg Maritime China Ltd., No. 136 North FuTe Road, China (Shanghai), Pilot Free Trade Zone, 200131 Shanghai, China