



Certificate number: 79819/A0 BV

File number: MPA2500301

Product code: 44511

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

Kongsberg Maritime AS
Kongsberg - NORWAY

for the type of product

PROPULSION REMOTE CONTROL SYSTEMS

K-Thrust 720 propulsion and thruster remote control system

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships
Bureau Veritas Rules for the Classification of Offshore Units
Bureau Veritas Rules for the Classification of Naval Ships
Bureau Veritas Rules for the Classification of Yachts
Bureau Veritas Rules on Cyber Security for the Classification of marine units NR659

EC Code : 31, 31B

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 13 Mar 2031

For Bureau Veritas Marine & Offshore,

At BV OSLO, on 13 Mar 2026,

Jonny Pettersson

This certificate was created electronically and is valid without signature



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

The electronic version is available at: <https://www.veristarm.com/veristarnb/jsp/viewPublicPdfTypec.jsp?id=uzkz0gpbkl>

BV Mod. Ad.E 530 June 2017

This certificate consists of 4 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION :

The **K-Thrust 720** Propulsion and Thruster Remote Control System offers manual remote control of main propulsion, thrusters and steering gears.

K-Thrust 720 shares many modules and hardware devices with **AutoChief 600**, **K-Steering** (certificate 09413/xx BV) and **K-Chief, K-Safe** (certificate 53826/xx BV).

Those modules and pieces of equipment are listed here after :

Module type	Product	Item ID KM	TA Issued to	certificate
Telegraph	Push Button Telegraph - PBT	8100278 8100318	Kongsberg Maritime	09413/xx BV
Levers	Azimuth Lever with display	405846	Kongsberg Maritime	See §5
	Azimuth Lever	416533	Kongsberg Maritime	See §5
	Single Lever with display	405842	Kongsberg Maritime	09413/xx BV
	Single Lever	416531	Kongsberg Maritime	See §5
	Dual Lever with display	405844	Kongsberg Maritime	09413/xx BV
	Dual Lever	416532	Kongsberg Maritime	09413/xx BV
	Lever display	416534	Kongsberg Maritime	09413/xx BV
	Lever telegraph unit – LTU11	364330	Kongsberg Maritime	09413/xx BV
	Lever telegraph and speedset unit – LTU11ME	389505	Kongsberg Maritime	09413/xx BV
Mini Wheel	Mini Wheel with display	412364	Kongsberg Maritime	09413/xx BV
	Mini Wheel	417835	Kongsberg Maritime	09413/xx BV
Operator panels	Direct Wiring Panel	345857	Kongsberg Maritime	See §5
	Direct Wiring IO Controller	345847	Kongsberg Maritime	See §5
	Thruster Command Panel	406412	Kongsberg Maritime	See §5
	Multi Purpose Panel - MPP	8100290	Kongsberg Maritime	09413/xx BV
	Push Button 4 (PB4)	400992	Kongsberg Maritime	09413/xx BV
Controllers	Push Button 4 (PB4) Momentary	110-0033305	Kongsberg Maritime	See §5
	RCU601	477601	Kongsberg Maritime	53826/xx BV
	RCU602	383962	Kongsberg Maritime	53826/xx BV
	RCU502i	421768	Kongsberg Maritime	53826/xx BV
CAN Distribution	CAN Switch - CS100	396502	Kongsberg Maritime	See §5
	CAN Switch Connector Module – CC100A	396504	Kongsberg Maritime	See §5
	CAN Switch Connector Module – CC100B	396633	Kongsberg Maritime	See §5
IO Units	LAN to CAN Gateway – L2C	404654	Kongsberg Maritime	53826/xx BV
	Remote Serial line interface module - RSER200-4	603444	Kongsberg Maritime	53826/xx BV
	RBUS Hub Module -RHUB200-5	603442	Kongsberg Maritime	53826/xx BV
	Remote Multi Purpose IO Module - RMP201-8	324400	Kongsberg Maritime	53826/xx BV
	Remote Multi Purpose module series 420 - RMP420	306712	Kongsberg Maritime	53826/xx BV
	Remote Digital I/O Relay series 420 - RDIOR420	306713	Kongsberg Maritime	See §5
	IO Units (C600)	Main Engine Interface unit -MEI	8100276	Kongsberg Maritime
Other	Remote input/output - C2xe	333346	Kongsberg Maritime	09413/xx BV
	Earth Fault Indicator 16 A – EFI-16	321492	Kongsberg Maritime	53826/xx BV
Operator Stations	MC340 Computer [ThinkStation P340 Tiny]	477549 477550 477553 477554 110-0028204	Lenovo	61470/xx BV

	MC360 Computer [ThinkStation P360 Tiny]	110-0016255 110-0016256 110-0016257 110-0016258 110-0016259 110-0016260 110-0024558	Lenovo	73552/xx BV
Network devices	Moxa EDS-408A Series	467615	Moxa	See §5
	EDS-408A-MM-SC	450144		
	EDS-408A-3M-SC	464916		
	Moxa IKS-6728A series	382427	Moxa	See §5
	Cisco C1000-24T-4X-L	110-0001617	Hatteland	See §5
	Cisco C1000-24FP-4G-L	110-0009583	Hatteland	See §5
	Cisco C1000-24T-4G-L	469125	Hatteland	See §5
	Cisco C1000-24P-4G-L	492517	Hatteland	See §5
	Fortinet FGR-60F	110-0020955	FortiGate	See §5

Software version : 4.2.x (x>=2)

2. DOCUMENTS AND DRAWINGS :

- K-Thrust 720 operator manual 441551/D rev 4.2 dated oct 2024
- K-Thrust 720 product description 409587/C dated sep 2018
- Hardware components list dated 29 jan 2025
- Change management note KM-PROC-0080 rev A dated 2024-1-3
- Patch management note KM-GUI-6015 rev A dated 18-11-2013
- Configuration management procedure KM-PRO-0120 rev C dated 11-25-2025
- Guideline for secure development lifecycle KM-GUI-0118 rev A dated 3-21-2024
- Software update note K-Thrust 4.2.3 110-0143136 rev A dated 2026-01-20

3. TEST REPORTS :

-/-

4. APPLICATION / LIMITATION :

- 4.1 - BUREAU VERITAS Rules for the Classification of Steel Ships, Offshore Units, Naval Ships and Yachts.
- 4.2 - Approval also valid for ships to be granted with the notations: **AUT-UMS, AUT-CCS, AUT-PORT, AUT-IMS, AUTO, AUT-QAS, AUT-IAS.**
- 4.3 - BUREAU VERITAS Environmental Category, **EC Code: 31, 31B.**
- 4.4 - For EMC requirements see certificate of each module.
- 4.5 - This certificate is valid for tested version 4.2.2 and later releases, provided that alterations of functionality remain in line with the Rules in force.
- 4.6 - Only Hardware and Firmware / Software successfully tested together in compliance with the rules as referred to in cover page, according to the declaration of the manufacturer are covered by this certificate.
- 4.7 - Any modification of the hardware, firmware or software having an impact on the product performance or functionality has to be validated with type testing.
- 4.8 - In accordance with IACS UR E22 and as applicable to programmable devices for computer based systems of Category II or III, for each ship application:
 - Ship specific documentation is to be submitted including software documentation and categorization of the computer based system.
 - Inspection and testing before installation onboard is to be performed under the surveillance of the Society.
- 4.9 - Equipment covered by this Type Approval certificate has been tested according to requirements of IACS UR E10 rev.9.
- 4.10 - Equipment covered by this Type Approval Certificate has been assessed in compliance with IACS UR E27 rev.1 as described in Annex.

5. PRODUCTION SURVEY REQUIREMENTS :

- 5.1 - The above products are to be supplied by **Kongsberg Maritime AS** in compliance with the type and the requirements described in this certificate.
- 5.2 - This type of product is within the category IBV of Bureau Veritas Rule Note NR320.
- 5.3 - BV product certificate is required.

5.4 - For information, **Kongsberg Maritime AS** has declared to Bureau Veritas the following production site:

Kongsberg Maritime AS
POB 483
Kirkegårdsveien 45
3601 Kongsberg
NORWAY

Kongsberg Maritime AS
P.O.Box 1009
3194 Horten
NORWAY

Kongsberg Maritime China Ltd.
136 North Fute Road , China (Shanghai)
China (Shanghai) Pilot Free Trade Zone
Shanghai
CHINA

Kongsberg Maritime Engineering
81 Toh Guan Road East,
#04-01 Secom Centre,
Singapore 608606
SINGAPORE

Kongsberg Maritime INC
New Orleans
LA 70087 Louisiana
USA
70087 Louisiana
UNITED STATES OF AMERICA

Kongsberg Maritime Korea (KMK)
9-7, Sandan 3-ro,
Jeonggwan-eup,
Gijang-gun
BUSAN
KOREA (REPUBLIC OF)

Kongsberg Maritime AS - Automation &
Control - Longva
Longvafjordvegen 379
Postboks 1522
N-6293 LONGVA
NORWAY

5.5 - The components listed in §1 have to be covered by a valid type approval certificate, issued by the Society.

6. MARKING OF PRODUCT :

- 6.1 - Trade name.
- 6.2 - Date of manufacture and serial number.
- 6.3 - Equipment type or model identification under which it was type-tested.
- 6.4 - Bureau Veritas' Marks.

7. OTHERS :

7.1 - It is **Kongsberg Maritime AS's** responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

*** END OF CERTIFICATE ***



**BUREAU
VERITAS**

Attestation number: 79320/A0 BV

File number: TCE12_213

Product code: RA-CYBER

This attestation is not valid when presented without the full attached schedule composed of 7 sections

REVIEW ATTESTATION

This attestation is issued to

Kongsberg Maritime AS
Kongsberg - NORWAY

for

CYBERSECURITY REVIEW
Kongsberg K-Thrust 720

Requirements:

NR659 Bureau Veritas Rules on Cyber Security for the Classification of Marine Units
IACS UR E27 Rev.1(Sep 2023) Cyber resilience of on-board systems and equipment

This document is issued to attest that BUREAU VERITAS Marine & Offshore reviewed the technical documentation submitted for the equipment identified above. Details of this review are to be found in the "Schedule of Review" in the subsequent pages of this attestation.

For Bureau Veritas Marine & Offshore,

At BV OSLO, on 24 Jan 2026,
Rune Marstein

This attestation was created electronically and is valid without signature



This attestation will not be valid if the applicant makes any changes or modifications to the product which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. This attestation is issued within the scope of the General Conditions of BUREAU VERITAS Marine & Offshore Division available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against BUREAU VERITAS for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgment, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

SCHEDULE OF REVIEW

1. PRODUCT DESCRIPTION :

Kongsberg K-Thrust 720 is described in the certificate 79819/XX BV.

2. DOCUMENTS AND DRAWINGS :

Filename	Reference
110-0053615C K-Thrust 720 CS - Asset Inventory	V1.0
110-0053618A K-Thrust 720 CS - Test Procedure	V2.0
110-0053617B K-Thrust 720 CS - Description of Security Capabilities	V5.0
441551D K-Thrust 720 OPM	V4.2
110-0053616D K-Thrust 720 CS - System Topology	rev D
KM-PROC-0080 Change management_en	rev B
KM-GUI-9504 Guidelines_for_service_on_AIM_systems_en	rev C
KM-GUI-0118 Guideline for Secure Development Lifecycle _SDLC_en	rev A

No departure from the above documents shall be made without the prior consent of the Society. The manufacturer must inform the Society of any modification or changes to these documents and drawings.

3. TEST REPORTS :

'Test Procedure for K-Chief & K-Safe - BV signed' was witnessed by a qualified BV Surveyor on the 16/05/2024:

The following subjects were investigated :

1. Protect against casual or coincidental access by unauthenticated entities
 - IEC 62443-3-3/SR 1.1 : Human user identification and authentication
 - IEC 62443-3-3/SR 1.3 : Account management
 - IEC 62443-3-3/SR 1.4 : Identifier management
 - IEC 62443-3-3/SR 1.5 : Authenticator management
 - IEC 62443-3-3/SR 1.7 : Strength of password-based authentication
 - IEC 62443-3-3/SR 1.10 : Authenticator feedback
2. Protect against casual or coincidental misuse
 - IEC 62443-3-3/SR 2.1 : Authorization enforcement
 - IEC 62443-3-3/SR 2.3 : Use control for portable and mobile devices
 - IEC 62443-3-3/SR 2.4 : Mobile code
 - IEC 62443-3-3/SR 2.5 : Session lock
 - IEC 62443-3-3/SR 2.8 : Auditable events
 - IEC 62443-3-3/SR 2.9 : Audit storage capacity
 - IEC 62443-3-3/SR 2.10 : Response to audit processing failures
 - IEC 62443-3-3/SR 2.11 : Timestamps
3. Protect the integrity of the CBS against casual or coincidental manipulation
 - IEC 62443-3-3/SR 3.1 : Communication integrity
 - IEC 62443-3-3/SR 3.1 RE 1 : Communication integrity
 - IEC 62443-3-3/SR 3.2 : Malicious code protection
 - IEC 62443-3-3/SR 3.3 : Security functionality verification
 - IEC 62443-3-3/SR 3.6 : Deterministic output
4. Prevent the unauthorized disclosure of information via eavesdropping or casual exposure
 - IEC 62443-3-3/SR 4.1 : Information confidentiality
 - IEC 62443-3-3/SR 4.3 : Use of cryptography
5. Monitor the operation of the CBS and respond to incidents
 - IEC 62443-3-3/SR 6.1 : Audit log accessibility
6. Ensure that the control system operates reliably under normal production conditions
 - IEC 62443-3-3/SR 7.1 : Denial of service protection
 - IEC 62443-3-3/SR 7.2 : Resource management
 - IEC 62443-3-3/SR 7.3 : System backup
 - IEC 62443-3-3/SR 7.4 : System recovery and reconstitution
 - IEC 62443-3-3/SR 7.5 : Alternative power source
 - IEC 62443-3-3/SR 7.6 : Network and security configuration settings
 - IEC 62443-3-3/SR 7.7 : Least Functionality

4. APPLICATION / LIMITATION :

- 4.1 - This attestation is an intermediate document and does not constitute by itself a BV Type Approval Certificate. This attestation is limited to cyber resilience of product described in 1. as per UR E27 Rev. 1 dated Sept.2023.
- 4.2 - This attestation is only valid when attached to the valid Type Approval Certificate 79819/XX BV.
- 4.3 - This attestation has been issued based on the review of documentation provided for the Type Approval Certificate 79819/A0 BV. It is manufacturer's responsibility to inform the Society of any modification or changes which could impact the validity of this attestation.
- 4.4 - Only Hardware and Firmware / Software successfully tested together in compliance with the Rules as referred to in page one, according to the declaration of the manufacturer are covered by this attestation.
- 4.5 - The installation shall comply with the Manufacturer's recommendation described in the above-referenced documentation.
- 4.6 - It is manufacturer's responsibility to inform the Society of any modification or changes which could impact the validity of this attestation.

5. PRODUCTION SURVEY REQUIREMENTS :

- 5.1 - For information, **Kongsberg Maritime AS**, has declared to Bureau Veritas the following production sites:

Kongsberg Maritime Ship Systems AS
 Bekkajordet 8a,
 P.O. Box 1009
 N-3194
 Horten
 NORWAY

Kongsberg Maritime AS
 POB 483
 Kirkegårdsveien 45
 3601 Kongsberg
 NORWAY

Kongsberg Maritime China Ltd.
 136 North Fute Road , China (Shanghai)
 China (Shanghai) Pilot Free Trade Zone
 Shanghai
 CHINA

Kongsberg Maritime INC
 New Orleans
 LA 70087 Louisiana
 USA
 70087 Louisiana
 UNITED STATES OF AMERICA

Kongsberg Maritime Korea (KMK)
 9-7, Sandan 3-ro,
 Jeonggwan-eup,
 Gijang-gun
 BUSAN
 KOREA (REPUBLIC OF)

Kongsberg Maritime PTE LTD
 81 TOH GUAN ROAD EAST
 #04-01, SECOM CENTRE
 SINGAPORE
 SINGAPORE

**Kongsberg Maritime AS - Automation
 & Control - Longva**
 Longvafjordvegen 379
 Postboks 1522
 N-6293 LONGVA
 NORWAY

6. MARKING OF PRODUCT :

N/A.

7. OTHERS :

- 7.1 - It is **Kongsberg Maritime AS** responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

*** END OF ATTESTATION ***