



# Type Approval Certificate

[ Control & Safety System ]

**Initial Approval** 7 March 2023

**Manufacturer** Kongsberg Maritime AS (HQ)  
Kirkegardsveien 45, NO-3616 Kongsberg, Norway

**Product Description** Safety Control and Monitoring System

Type: K-Thruster 720

" See Appendix 1 "



**Approval Condition** " See Appendix 1 "

**THIS IS TO CERTIFY** that the above-mentioned product has been approved in accordance with the relevant requirement of this Society's Rules and / or of the recognized standards as follows.

Pt. 6, Ch. 2, Art. 301 of the Rules for Classification, Steel Ships.

This Certificate is valid until 6 March 2028  
 Issued at Busan, Korea on 7 March 2023



This certificate is signed electronically in accordance with IMO FAL.5/Circ.39/Rev.2. Validation and authentication of the certificate can be confirmed from "<http://e-cert.krs.co.kr>" by using the tracking No(ME23009095255) and certificate No.(CPH03795-AC009).



**KOREAN REGISTER**

*General Manager of  
Marine & Ocean Equipment Team*

- Note :**
1. This certificate will be valid subject to complying with the approval conditions described on the certificate and/or on the Rules of this Society.
  2. This certificate will be invalid from the expiry date aforementioned unless the extension or renewal has been granted to the applicant or the manufacturer.
  3. Any significant modifications or changes in design or construction to the above product without approval from this Society will render this certificate invalid.
  4. Should the specified rules, regulations or standards be amended during the validity of this certificate, the product is to be re-approved by this Society in accordance with the requirements as amended.

## Product Description and/or Approval Condition

Date of Issue : 7 March 2023

### A. Product Description

#### 1. Product Specification

##### 1) Product Description :

The KONGSBERG Thruster, Propulsion and Steering Remote Control System (K-Thrust 720) is an integrated control system for monitoring and control of main propulsion, thrusters and steering gears.

##### A) Hardware

Module Type	Product No.	HW Module Description	Product Description	Compass Safe Distance (mm)
Telegraph	8100318	330199	Push Button Telegraph	-
	8100333	330199	Push Button Telegraph	-
Lever	405846	412948	K-TRUST AZIMUTH W/DISPLAY	1000
	416533	412948	K-TRUST AZIMUTH	1000
	405842	412948	Lever K-Thrust Single w/display	1300
	416531	412948	Lever K-Thrust Single	200
	405844	412948	Lever K-Thrust Dual w/display	1300
	416532	412948	Lever K-Thrust Dual	200
	416534	412948	Lever K-Thrust display	1100
	364330	367938	LTU11	800
389505	367938	LTU11ME	600	
Mini Wheel	412364	412948	Mini Wheel K-Thrust w/ display	1000
	417835	412948	Mini Wheel K-Thrust	1000
Panel	345857	334102	WIRING PANEL	50
	406412	412460	COMMAND PANEL	1200
	8100290	N/A	Multi Purpose Panel (MPP)	100
IO Module	603444	300993	RSER200-4	50
	603442	300994	RHUB200-5	50
	324400	330111	RMP201-8	50
	306712	311165	RMP420	50
	306713	311163	RD10R420	50
	8100276	330153	MEI	100
	333346	330189	RIO-C2	600
Controller	421768	429804	RCU502i	300
	383962	408644	RCU602	300
Switch	396502	396509	CS100	1000
	396504	396515	CC100A	1000
	396633	396515	CC100B	1000
	404654	409453	L2C	100
Power Supply	321492	324876	EFI-16	500

##### B) Functions

- Remote control of propulsion, thruster and steering gear units
- Command responsibility transfer between control positions and individual transfer between ECR and Bridge
- Selection of control mode
- Alarm indication

\* For the detail, please refer to 'K-Thrust 720 Propulsion and Thruster Remote Control System - Product Description' (Doc. No. 409587/C).

##### C) Software Versions : 4.1.X

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### 2. Approved Drawings and Documents

- 1) Approved Documents
  - Product Description, K-Thrust 720 Propulsion and Thruster Remote Control System, Doc. No. 409587/C
  - Emergency Stop Levers, Doc. No. 388324/B
  - Emergency Stop Levers with thermal fuse, Doc. No. 419426/A
  - Cable Layout, Doc. No. 425797/A, 425798/A, 425799/A, 425804/A
  - System Drawing, Doc. No. 435241/B
- 2) Reviewed Documents
  - Operator Manual, K-Thrust 720 Propulsion and Thruster Remote Control System, Doc. No. 441551/B
  - Maintenance Manual, Local Control Cabinet, Doc. No. 370108/B
  - Maintenance Manual, Kongsberg K-Thrust 720 RCS Control Position, Doc. No. 412924/B
  - Operator Manual, K-Master, Doc. No. 427893/D

### 3. Test Reports, etc.

- 1) Test Reports
  - Report No. E21088.03 issued by NEMKO, dated 2021-10-28
  - Report No. E15165.01 issued by NEMKO, dated 2017-04-28
  - Report No. E18081.00 issued by NEMKO, dated 2018-04-23
  - Report No. E21059.03 issued by NEMKO, dated 2021-06-24
  - Report No. E16203.00 issued by NEMKO, dated 2017-03-29
  - Report No. DANAK-198696 issued by DELTA, dated 2007-03-15
  - Report No. DANAK-1911658 issued by DELTA, dated 2011-12-08
  - Report No. DANAK-198508 issued by DELTA, dated 2006-10-17
  - Report No. DANAK-1910900 issued by DELTA, dated 2006-10-17
  - Report No. DANAK-1913963 issued by DELTA, dated 2014-04-03
  - Report No. DANAK-197309 issued by DELTA, dated 2004-01-19
  - Report No. DANAK-197329 issued by DELTA, dated 2004-01-19
  - Report No. DANAK-197561 issued by DELTA, dated 2004-08-09
  - Report No. DANAK-197724 issued by DELTA, dated 2004-12-07
  - Report No. DANAK-197873 issued by DELTA, dated 2005-03-07
  - Report No. DANAK-1910740 issued by DELTA, dated 2009-12-18
  - Report No. E16268.00 issued by NEMKO, dated 2017-05-05
  - Report No. DANAK-1910264 issued by DELTA, dated 2008-09-01
  - Report No. DANAK-1910281 issued by DELTA, dated 2008-10-14
  - Report No. E18040.00 issued by NEMKO, dated 2019-07-04
  - Report No. DANAK-194874 issued by DELTA, dated 1999-12-21
  - Report No. DANAK-1916085 issued by DELTA, dated 2016-02-15
  - Report No. E15157.02 issued by NEMKO, dated 2017-08-21

## B. Approval Condition

### 1. Application & Limitation

- 1) This approval is granted on the basis of the test reports and the approved documentation.
- 2) Degree of protection is to be complied with Rule Pt. 6 Ch. 1 Sec. 2 201.2. (5).
- 3) The manufacturer is to inform this Society of all kinds of revisions of the equipment including the major changes of software. If the changes are recognized to affect the functionality of the approved equipment, a type test to confirm the reliability of the revised equipment may be performed in the presence of our surveyor.

### 2. Individual Product Cert. and Drawing Approval Requirement

- 1) Individual Product Certification is required.
- 2) In the case where this system is installed on board, the system drawings for individual vessel are to be approved by this Society.

### 3. Marking

- 1) The product or packing is to be marked with the manufacturer's name and type designation on a suitable position.

## Product Description and/or Approval Condition

Date of Issue : 7 March 2023

### 4. Others

1) Test condition (IACS UR E10 Rev. 8 basis)

Test	Condition	Product No.
EMC	All locations including the bridge and deck zone	All
Temperature	-25 ~ +70°C	364330, 406412, 404654
	-25 ~ +55°C	8100318, 8100333
	-15 ~ +70°C	the others except the above
Vibration	Acceleration $\pm$ 4.0g	8100318, 8100333, 364330 404654
	Acceleration $\pm$ 0.7g	the others except the above
Salt mist	Not Applied	-

&lt; End of certificate &gt;

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