



# Type Approval Certificate

[ Control & Safety System ]

**Initial Approval** 27 October 2025  
**Applicant** Kongsberg Maritime AS (HQ)  
 Kirkegardsveien 45, NO-3616 Kongsberg, Norway

**Product Description** Type : Mcon

\* Manufacturing Place :  
 Kongsberg Maritime AS, Longva (Longvafjordvegen 379, 6293 Longva, Norway)

" 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 of Steel Ships.

This Certificate is valid until 26 October 2030

Issued at Busan, Korea on 27 October 2025



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(ME25046606417) and certificate No.(CPH03795-AC011).



**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 : 27 October 2025

### A. Product Description

#### 1. Product Specification

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

##### 1) Hardware

| Module Type | Product No.  | Product Description                                 | Compass Safety Distance |          |
|-------------|--------------|---|-------------------------|----------|
|             |              |   | Standard                | Steering |
| Lever       | 000114574    | Main propulsion, single, fwd                        | 30cm                    | 20cm     |
|             | 000122040    | Main propulsion, single, aft                        | 30cm                    | 20cm     |
|             | 000114575    | Main propulsion, double, fwd                        | 30cm                    | 20cm     |
|             | 000114576    | Main propulsion, double, aft                        | 30cm                    | 20cm     |
|             | 000122041    | Main propulsion, single, fwd, motorized             | 30cm                    | 20cm     |
|             | 000122042    | Main propulsion, single, aft, motorized             | 30cm                    | 20cm     |
|             | 000122043    | Main propulsion, double, fwd, motorized             | 30cm                    | 20cm     |
|             | 000122044    | Main propulsion, double, aft, motorized             | 30cm                    | 20cm     |
|             | RRM000353541 | Main propulsion, single pitch/RPM, ECR              | 30cm                    | 20cm     |
|             | RRM000357317 | Main propulsion, single pitch/RPM, ECR, motorized   | 30cm                    | 20cm     |
|             | RRM000480571 | Main propulsion, single pitch/RPM, Fwd, motorized   | 30cm                    | 20cm     |
|             | RRM000480573 | Main propulsion, single pitch/RPM, aft, motorized   | 30cm                    | 20cm     |
|             | 000104154    | Tunnel thruster, double                             | 30cm                    | 20cm     |
|             | 000104155    | Tunnel thruster, double, motorized                  | 30cm                    | 20cm     |
|             | 000104156    | Tunnel thruster, single                             | 30cm                    | 20cm     |
|             | 000104157    | Tunnel thruster, single, motorized                  | 30cm                    | 20cm     |
|             | 000104162    | Rudder tiller (50- 0- 50)                           | 30cm                    | 20cm     |
|             | 000112159    | Rudder tiller (70- 0- 70)                           | 30cm                    | 20cm     |
|             | 000110624    | Helmsman lever (50- 0- 50)                          | 30cm                    | 20cm     |
|             | RRM000460995 | Rudder tiller (45- 0- 45), with lever, no buttons   | 30cm                    | 20cm     |
|             | 000104146    | Azimuth CP, aft                                     | 20cm                    | 15cm     |
|             | 000104147    | Azimuth CP, fwd                                     | 20cm                    | 15cm     |
|             | 000104148    | Azimuth CP, motorized, aft                          | 20cm                    | 15cm     |
|             | 000104149    | Azimuth CP, motorized, fwd                          | 20cm                    | 15cm     |
|             | 000125251    | Azimuth CP, motorized, fwd, without scale numbering | 20cm                    | 15cm     |
|             | 000104150    | Azimuth FP, aft                                     | 20cm                    | 15cm     |
|             | 000104151    | Azimuth FP, fwd                                     | 20cm                    | 15cm     |
|             | 000104152    | Azimuth FP, motorized, aft                          | 20cm                    | 15cm     |
|             | 000104153    | Azimuth FP, motorized, fwd                          | 20cm                    | 15cm     |
|             | RRM000377686 | Azimuth FP, scale 0-10-0-10                         | 20cm                    | 15cm     |
|             | RRM000377687 | Azimuth FP, motorized, scale 0-10-0-10              | 20cm                    | 15cm     |
|             | RRM000385830 | Main propulsion single                              | 10cm                    | 0cm      |
|             | RRM000385831 | Main propulsion double                              | 10cm                    | 0cm      |
|             | RRM000385832 | Tunnel thruster single                              | 10cm                    | 0cm      |
|             | RRM000385833 | Tunnel thruster double                              | 10cm                    | 0cm      |
|             | RRM000385835 | Azimuth G3  | 10cm                    | 0cm      |
|             | RRM000385836 | Azimuth, limited +/-60 degrees                      | 10cm                    | 0cm      |

## Product Description and/or Approval Condition

Date of Issue : 27 October 2025

| Module Type       | Product No.  | Product Description                      | Compass Safety Distance |          |
|-------------------|--------------|--|-------------------------|----------|
|                   |              |  | Standard                | Steering |
| Operator Panel    | 000117799    | Steering gear panel - pump control       | 1cm                     | 0cm      |
|                   | 000117800    | Steering gear panel - NFU control, fwd   | 1cm                     | 0cm      |
|                   | 000117801    | Steering gear panel - NFU control, aft   | 1cm                     | 0cm      |
|                   | 000126062    | MMS panel autocrossing                   | 1cm                     | 0cm      |
|                   | 000127586    | MMS panel autocrossing, DP Mode          | 1cm                     | 0cm      |
|                   | RRM000413829 | MMS panel autocrossing, Autodocking mode | 1cm                     | 0cm      |
|                   | RRM000438977 | MMS panel autocrossing, JS Mode          | 1cm                     | 0cm      |
|                   | 000117803    | CAN RailModule                           | 1cm                     | 0cm      |
|                   | 391890       | COP05 ALC stand alone                    | 35cm                    | 25cm     |
| Controller        | 466764       | H1151.6059, marine controller            | 25cm                    | 20cm     |
|                   | 000110313    |  |                         |          |
|                   | 488531       | H1170, marine controller                 | 10cm                    | 10cm     |
|                   | RRM000471733 |  |                         |          |
| Switch            | RRM000376790 | 8-port switch, 8xRJ45                    | 10cm                    | 5cm      |
|                   | RRM000376886 | 8+2-port switch, 8xRJ45, 2xLC            | 10cm                    | 5cm      |
| Operator Station  | RRM000603363 | Panel computer 10.4", MPCF1-10,4"        | 60cm                    | 40cm     |
|                   | RRM000483816 |  |                         |          |
|                   | 000124787    | 12 inch panel computer                   | 65cm                    | 45cm     |
|                   | 000123971    | 8 inch panel computer                    | 70cm                    | 45cm     |
| I/O module        | 000108227    | B&R X20 IO Module System                 | -                       | -        |
|                   | 000110698    |  | -                       | -        |
| Serial interfaces | 421167       | HT 00262 OPTA3                           | -                       | -        |
|                   | RRM000644018 |  | -                       | -        |

2) Software Version : 1.8.X

## 2. Approved Drawings and Documents

- 1) Approved Documents
  - Product Description, 110-0076740 Rev.B
  - Moon PTC HW documentation Rev.A
  - Moon STG HW documentation Rev.A

## 3. Test Reports, etc.

- 1) Test Reports
  - 9505 331 698XX 001 dated 2014-05-16, 9505 331 695XX 001 dated 2017-05-21, 9505 331 699XX 001 dated 2014-03-28, 9505 331 697XX 001 dated 2017-05-21, 0026 H0203 0000213260 dated 2021-06-15, 0026-H0203-0000089130 dated 2017-03-09, Thales 0026-H0203-0000213312 dated 2021-06-13, DANAK-198195 dated 2005-12-19, E21088.03 dated 2021-10-28, Technical report 20216 rev1 dated 2014-05-23, E21194.01 dated 2021-12-14, 622-20078-10-R0 dated 2022-05-04, DELTA-E702792 dated 2011-04-08, 1220039-01 dated 2012-11-06, Technical Report 20157 Rev.3 dated 2014-01-31, E15269.00 dated 2016-01-06, E21159.01 dated 2021-08-25, Technical report 20053\_rev.1 dated 2013-11-19

## Product Description and/or Approval Condition

Date of Issue : 27 October 2025

- 2) Manuals
  - Mcon Class Manual EAC-118783-01MC(A) dated 2024-04-10
  - Mcon Class Manual EAC-118810-01MC(A) dated 2024-06-20
  - Mcon Operating & Maintenance Manual EAC-EAC-111111-01MU(A) dated 2024-03-15
- 3) Software Documents
  - Common P&T Application Software Releases dated 2024-12-04
  - Software Quality Plan AAC-044001-01TQ dated 2021-02-21
- 4) FMEA
  - 110-0076745 Rev.B dated 2025-04-04
  - 110-0083894 Rev.A dated 2024-09-07

## 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.
- 4) When this system is installed in the vicinity of a standard or a steering magnetic compass, it is to have the minimum safe distance stated in Product Description or more at which it may be mounted from such compasses.
- 5) The system has been found to satisfy the requirements of Rule Pt.6 Ch.2 Sec.4 404.2. (1), (3) and (4).
- 6) This certificate covers the hardware only.

### 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) In the case where this system is installed on board, below documents for individual vessel are to be submitted to this Society according to Rule Pt.6 Ch.2 Sec.4 404.2. (7).
  - FAT program

### 3. Marking

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

### 4. Others

- 1) Test condition

| Test        | Condition  | Product No.   |
|-------------|--|---|
| EMC         | All locations including the bridge and deck zone | All   |
| Temperature | -15 ~ +55°C                                      | 421167, RRM000644018  |
|             | -15 ~ +70°C                                      | 000124787, 000123971<br>391890, RRM000464627<br>466764, 000110313 |
|             | -25 ~ +70°C                                      | the others except the above                                       |
| Vibration   | Acceleration $\pm 0.7g$                          | All   |

&lt; End of Certificate &gt;