



TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MERB000026A
Revision No:
0

This Certificate is issued by DNV UK Limited based on authorisation of the Maritime & Coast Guard Agency (MCA) as an UK Approved Body to undertake conformity assessments on marine equipment in accordance with the requirements of the Merchant Shipping (Marine Equipment) Regulations 2016 as amended.

This is to certify:

That the Rudder angle indicator

with type designation(s)
K-Bridge Multi Indicator

Issued to

Kongsberg Maritime AS
Kongsberg, Norway

is found to comply with the requirements in the following Regulations/Standards:

Regulation **MSN 1874 Amendment 9,**

item No. UK/4.20. SOLAS 74 as amended, Regulations V/18, V/19 & X/3, IMO Res. A.694(17), IMO Res. MSC.36(63), IMO Res. MSC.97(73), IMO Res. MSC.191(79), IMO Res. MSC.302(87)

Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2028-03-14**.

Issued at **London** on **2024-10-14**

DNV local unit:
East & South Norway CMC



for **DNV UK Ltd.**

Approval Engineer:
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Approved Body No.: **0097**

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MER Service Responsible



**Maritime &
Coastguard
Agency**

UK Approved Body Authorised
by the MCA

This certificate will not be valid if the manufacturer makes any changes or modifications to the approved type of equipment, which have not been notified to, and agreed with the approved body named on this certificate.

During the period of validity of this certificate the applicable regulations (international conventions and the relevant resolutions and circulars of the IMO) and testing standards may change, therefore the product conformity may need to be re-assessed by the Approved Body.

"The Mark of Conformity" may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-control phase module (D, E or F) of Schedule 2 of the Merchant Shipping (Marine Equipment) Regulations 2016, as amended is fully complied with and controlled by a written inspection agreement with an approved body. In case limitations of use apply, these should be indicated in the Annex.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Product description

Kongsberg Maritime K-Bridge Multi Indicator, consisting of:

Equipment type	Description	Model
Indicator unit	Computer with integrated display and interfaces	As defined in separate certificate ^{*)}
Rudder Angle Transmitter	Rudder Angle Calibrator	Type 5014, SW ver. 1.00 ^{**)}
Software module	K-Bridge Multi Indicator SW	As defined in separate certificate ^{*)}
Options		
Network Switches	Moxa Ethernet Switch	As defined in separate certificate ^{*)}

^{*)} Type Examination Certificate TAA00000FJ for K-Bridge and K-Nav system platforms (see Type Examination documentation below) in its latest revision at the date of placing the system on the market is part of this certificate. For the relevant revision see also <https://approvalfinder.dnv.com>

^{**)} Indicators may be connected to alternative transmitters with an impedance in the range 2– 5 kΩ, and which meet the requirements for transmitters in ISO 20673.

All units listed above are to be installed in a protected environment, i.e. indoor.

Application/Limitation

- Indicator is to be installed according to instructions in Installation Manual.
- Indicators are to be installed in a redundant configuration with fallback solution in case more than one type of indicator is to be presented on a single display.
- The K-Bridge Multi Indicator does not issue alerts, hence testing according to IEC 62923-1 and IEC 62923-2 is deemed as not being applicable.

Type Examination documentation

DNV No	Document ID	Rev.	Description
50	110-0027406	A	Report: Kongsberg Maritime, K-Bridge Multi Indicator- Electric Rudder Angle Indicator, SW 2.0.0.1
49	455790	A	Report: Kongsberg Maritime, Multi Indicator Rudder Angle Indicator with HD 13T30 Test Report
48	455796	A	Report: Kongsberg Maritime, Multi Indicator Fallback with HD 13T30 Test Report
20	435426	A	Manual: Kongsberg Maritime, Rudder Angle Calibrator, Instruction Manual
19	439941	A	Manual: Kongsberg Maritime, Rudder Angle Calibrator, Installation Manual
16	TAA00000FJ	Latest rev.	Certificate: DNV, K-Bridge and K-Nav system platforms
15	MEDB00002UG	Rev 2	Certificate: DNV, MED-B certificate for rudder angle indicator system incl. Type 5014 Rudder Angle Calibrator
11	427973	F	Manual: Kongsberg Maritime, K-Bridge Multi Indicator, Installation Manual
10	424898	F	Manual: Kongsberg Maritime, K-Bridge Multi Indicator, Operator Manual

Tests carried out

- Performance testing: ISO 20673 (2022)
- Environmental testing: IEC 60945 (2002) incl. Corr.1 (2008)
- Presentation of navigation information: IEC 62288 (2021)
- Serial interface testing: IEC 61162-1 (2016)

Marking of product

The type designation and name and contact address of the manufacturer shall be affixed visibly, legibly and indelibly to the product. In addition the product shall be marked with serial number, safe distance to magnetic compass, power consumption and/or supply voltage.