

**EC-TYPE EXAMINATION  
CERTIFICATE (MODULE B)**

Certificate No:  
**MEDB00000H8**  
Revision No:  
**1**

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED), issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Authority. This Certificate is issued by DNV GL AS under the authority of the Government of Norway.

**This is to certify:**

**That the Heading control system (HCS)**

with type designation(s)  
**K-Nav Autopilot**

Issued to  
**KONGSBERG MARITIME AS**  
**Kongsberg, Norway**

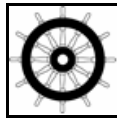
is found to comply with the requirements in the following Regulations/Standards:  
Regulation **(EU) 2018/773**,  
**item No. MED/4.16. SOLAS 74 as amended, Regulations V/18 & V/19, IMO Res. A.342(IX), IMO Res. A.694(17), IMO Res. MSC.191(79), IMO Res. MSC.64(67) Annex 3, IMO Res. MSC.302(87)**

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

This Certificate is valid until **2021-05-29**.

Issued at **Høvik** on **2019-08-30**

DNV GL local station:  
**Sandefjord**



for **DNV GL AS**

Approval Engineer:  
**Steinar Kristensen**

Notified Body  
No.: **0575**

**Roald Vårheim**  
**Head of Notified Body**

A U.S. Coast Guard approval number will be assigned to the equipment when the production module has been completed and will appear on the production module certificate (module D, E or F), as allowed by the "Agreement between the United States of America and the EEA EFTA states on the mutual recognition of Certificates of Conformity for Marine Equipment" signed 17 October 2005, and amended by Decision No 1/2019 dated February 22nd 2019.

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-surveillance module (D, E or F) of Annex B of the MED is fully complied with and controlled by a written inspection agreement with a Notified Body. The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU.

This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV GL AS of any changes to the approved equipment. This certificate remains valid unless suspended, withdrawn, recalled or cancelled.

Should the specified regulations or standards be amended during the validity of this certificate, the product is to be re-approved before being placed on board a vessel to which the amended regulations or standards apply.



Job Id: **344.1-001430-7**  
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## Product description

K-Nav Autopilot consists of following modules:

Unit	Qty.	Description	Module name	Comment/ Interfaces/Versions
Operator panel	1	Autopilot operator panel with 7" colour TFT-LCD display	K-Nav Autopilot Operator Panel	2x 24V DC input
Controller Cabinet	1	Cabinet	K-Nav Autopilot Controller Cabinet	Enclosure for below modules
	1	Remote Controller Unit	RCU502 or RCU502i	
	2	Remote Multi Purpose I/O module	RMP201-8	8x multi purpose (digital/analogue/potmeter) inputs/outputs
	2	Serial Line Interface Module	RSER200-4	4x RS232/RS422/RS485 inputs/outputs
	1	Power Supply Unit	QUINT-PS/1AC/24DC/10	100-240V AC input/ 24 VDC, 10A output

Above equipment is to be installed in a protected environment, i.e. indoor.

### SW Versions:

K-Nav AP: 1.0.x  
Operator Panel OS: Windows XP Professional  
AP Controller: 2.3.x.x

## Application/Limitation

- Equipment is to be installed according to manufacturers manuals.

## Tests carried out

- Performance testing, ISO 11674 (2006)
- Environmental testing, IEC 60945 (2002) incl Corr. 1 (2008)
- Serial interface testing, IEC 61162-1 (2016)
- Presentation testing, IEC 62288 (2014)

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### Type Examination documentation

DNV GL No	Drawing No	Rev.	Description
71	E18081.00	00	Report: Nemko, EMC and Environmental test report for RCU502i
70	408876	A	Manual: Kongsberg Maritime, K-Nav Autopilot Operator Manual
64	DANAK-1911523	1	Report: Delta, Environmental test report for RCU502
62	DANAK-198508	1	Report: Delta, Environmental test report for RCU501, RSER200-4, RHUB200-5 and RMP200-8
61	408840	D	Manual: Kongsberg Maritime, K-Nav Autopilot Controller Cabinet, Installation Manual
60	408841	C	Manual: Kongsberg Maritime, K-Nav Autopilot, Maintenance Manual
59	409965	1	Report: Kongsberg Maritime, IEC 61162-1 and IEC 62288 test report for K-Nav Autopilot
58	411391	1.0	Report: Kongsberg Maritime, Type Approval test report for K-Nav Autopilot
55	385168	A	Report: Kongsberg, System Test Report for AP2008, SW 1.3.0
54	2011-3509	01	Report: DNV, EMC and environmental testing of K-AP maritime panel computer
51	A-11525		Certificate: DNV, TA certificate for QUINT-PS power supply
50	E60568		Report: Phoenix, EMC tests for power supply QUINT-PS
44	10420001	D	Report: Kongsberg, AP2008 Final Type Approval Test Report
41	2010-3187	01	Report: DNV, EMC and environmental testing of K-AP Panel Maritime Computer
40	AR/VG-05/04/2010	2010-04-05	Report: Data Respons, Engineering Change Notice/ Update to K-AP
31	309397	A	Report: Kongsberg, K-Bridge Latency test
27	10420001	C	Report: Kongsberg, AP2008 Final Type Approval Test Report Rev C
22	DANAK-198931		Report: Delta, Environmental and EMC testing of K-Bridge Autopilot- K-AP Panel
15	310-03-0319	B	Report: TI, Environmental test report of FS120, NDU and DNU Mini

### 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.