

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB00003B5
Revision No:
2

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 AS under the authority of the Government of Norway.

This is to certify:

That the Heading control system (HCS) and Heading control system for high speed craft

with type designation(s)
Navis NavAP

Issued to
Navis Engineering Oy
VANTAA, Finland

is found to comply with the requirements in the following Regulations/Standards:
Regulation (EU) 2022/1157,

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)
item No. MED/4.40. SOLAS 74 as amended, Regulation X/3, IMO Res. A.694(17), IMO Res. A.822(19), IMO Res. MSC.36(63), IMO Res. MSC.97(73), IMO Res. MSC.191(79), IMO Res. MSC.302(87), IMO MSC.1/Circ.1349

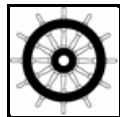
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2025-07-01**.

Issued at **Høvik** on **2023-10-09**

DNV local unit:
Finland CMC

Approval Engineer:
Tommi Juhani Rifaat



Notified Body
No.: **0575**

for **DNV AS**

Sverre Olav Bergli
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 1/2023 dated August 21st, 2023.



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 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.

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

Navis NavAP consist of:

Description	Unit Type Designation	SW ver.
Control Panel	APH-5 or APH-7	06.03.xx.yy 06.03.xx.yy
Control Unit	MCU including: - Main MC - Rudder MC - Thruster MC ACU including (optioal) including APMPP PCB with: - Rudder MC - Thruster MC	05.09.xx.yy 07.07.xx.yy 04.07.xx.yy 07.07.xx.yy 04.07.xx.yy
Interface Box Type 2 (Optional)	IB-FFU-2 (FFU/ROT Tiller I/O) including - APC3002 PCB IB-TCS-2 (TCS Backup I/O) including - APC3002 PCB PU-P-2 (Propulsion I/O) including - APC30002	05.06.xx.yy 06.06.xx.yy 04.07.xx.yy
Steering Mode Selector (Optional)	SMS-B Type 1 or SMS-B Type 2 or SMS-B Type 3	N/A
Lever (Optional)	LVR-F LVR-NF-AP	N/A 31.01.xx.yy

Application/Limitation

- A change-over control from automatic to manual steering shall be provided and located easily accessible to the officer of the watch.
- Navis AP3000-C and Navis NavAP including interface Box IB-TCS-2 is tested to comply with DNVGL rules Pt.6.Ch.3.Sec.3 6.2.3
- The TRACK control mode shall only be available when the HCS is part of an approved Track Control System

Type Examination documentation

DNV No.	Drw. No.	Rev.	Title
51	000.AP-50000-IGE	C04	Manual: Navis NavAP Navis NavJP Heading control system Joystick pilot system Installation Guide
50	000.AP-50000-UGE	C04	Manual: Navis NavAP Heading control system User Guide
45	PTP-NavAP-TE	Revision E	Report: NAVIS NavAP and AlphaPilot MFM Heading Control System – Performance test program and report
42			Manual: Annex C Input/output messages formats
36	266602-2		Report: SGS, STCS4000 Vibration Test report
35	266553-1		Report: SGS, STCS4000 EMC Test Report
34	266602-1		Report: SGS, STCS4000 Climatic Test Report
33	266602-3		Report: SGS, STCS4000 Test report IP44 IP56
31	PTP-NavAP-TE	D (June 2018)	Report: Navis NavAP Performance test program and report
	VTT-S-06678-17		Report: VTT, Environmental tests Navis AP5000 / AP3000C Heading Control System
29	FMEA-AP3000C/AP5000-TE	C	Report: Navis AP3000-C/NavAP Failure Mode and Effects Analysis

DNV No.	Drw. No.	Rev.	Title
24	VTT-S-07107-17		Report: VTT, Salt mist test Navis AP5000 / AP3000C
23	Flicker analytic test APH-5 APH-7		Report: Navis AP3000-C/NavAP, Flicker analytic test APH-5 APH-7
22	240607-1	A1	Report: SGS, Electromagnetic Compatibility EMC test report Navis AP3000
21	288184-1		Report: SGS, Electromagnetic Compatibility EMC test report Navis AP5000 / AP3000C
19	VTT-S-02004-17		Report: VTT, Environmental tests Navis AP5000 / AP3000C
18	242461-1		Report: SGS, Environmental tests AP3000
17	AP-10510-DLE	A03 (Oct. 2017)	Drawing: Set of Drawings NavAP

Tests carried out

- Environmental tests: IEC 60945 (2002), incl. IEC 60945 Corr. 1:2008,
- Performance tests: ISO 11674 (2019)
- Performance tests for High Speed Crafts: ISO 16329 (2003)
- Performance tests: DNV Rules pt. 6. Ch.3 Sec.3. 6.2.3 (Edition 2021-07)
- Serial Interface tests: IEC 61162-1 (2016) and IEC 61162-2 (1998)
- Presentation tests: IEC 62288 (2014)
- Bridge alert management: IEC 62923-1 (2018) and IEC62923-2 (2018)

Marking of product

The name and contact address of the manufacturer and type designation of the product is to be affixed to the equipment in a clearly visible location. In addition the equipment shall be marked with serial number, safe distance to magnetic compass, power consumption and/or supply voltage.