

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB00003BV
Revision No:
4

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED). This Certificate is issued by DNV SE based on the notification of the Federal Maritime and Hydrographic Agency of Germany.

This is to certify:

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

with type designation(s)
NautoPilot 5000 Series

Issued to

Raytheon Anschutz GmbH
Kiel, Schleswig-Holstein, Germany

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

Regulation (EU) 2021/1158,

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

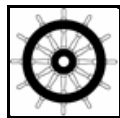
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2025-07-28**.

Issued at **Hamburg** on **2021-09-24**

DNV local station:
Hamburg – CMC North/East

Approval Engineer:
Jörg Rebel



Notified Body
No.: **0098**

for **DNV SE**

Christine Mydlak-Roeder
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) 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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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.

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 SE 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

The Heading Control System (HCS) NautoPilot 5000 series covers the following trade names: NautoPilot 5100, NautoPilot 5300, NautoPilot 5400 and NautoPilot 5500.

It consists of the following equipment:

1. Operator Unit Autopilot NP5000 AS:

Type: 102-890 NG001/NG002/NG003	Hardware Rev.:	E00
102-890.SAxxx	Software Rev.:	E03.xx

And 2.

Autopilot Interface Unit AS:

Type: 102-891 NG001	Hardware Rev.:	E01
	Software Rev.:	E01.xx

And 3.

License Key: NP 5100 or NP 5300 or NP 5400 or NP 5500

NP5000 AS type 102-890.NG003 does not require a license for remote operation.

The HCS with license key NP 5300, NP 5400 or NP 5500 may be used in operating mode drift corrected Course Control.

Operator Unit Autopilot NP5000 type 102-890.NG003 can be used for remote operation only.

The following Serial-to-Ethernet converter can be used as serial interface to BAM / BNWAS: Moxa NPort 5232I-T

The following Ethernet switch can be used: Moxa EDS-408A

Inputs:

Heading: Serial Course Bus from Anschütz Gyro System, IEC 61162 THS, HDT (<100ms),
Magnetic sonde from magnetic compass or IEC 61162 HDG

Speed: Serial Course Bus from Anschütz Gyro System, IEC 61162 VTG, VHW, VBW, Puls log 200p/NM

Position: IEC 61162 GLL, GGA, RMC, GNS

Outputs:

Navigation data via serial link IEC 61162, FU-Amplifier (+/- 10V, 4mA to 20mA, ON/OFF 24V to 110VDC),
Potential free contacts for SYSTEM FAILURE, OFF HEADING, HEADING MONITOR, BACKUP NAVIGATOR ALARM
Bidirectional Trackcontrol acc. IEC 61162

Additional equipment:

Remote Control for NP5000 consisting of:

Panel PC: Type: 130-700.NG002 with Joystick Type: CST100B1985

Feedback unit: Type: 101-532 NGxxx

Magnetic sonde: Type: 108-010.NG001/NG002/NG003/NG004

The Heading Control System NautoPilot 5000 series may be used as part of the Integrated Navigation System (INS) Synapsis/Synapsis NX INS as described in type approval certificate TAA00002EM and TAA00002JU in its latest revisions at the date of placing the system on the market is part of this certificate, for the relevant revision see also <https://approvalfinder.dnvgl.com/>.

The Heading Control System NautoPilot 5000 series may be used as part of the steering gear control system NautoSteer AS without the Autopilot Interface Unit AS.

Application/Limitation

None

Type Examination documentation

No.	Document ID	Rev.	Description	Test standard
1	TTD01-09-10_NP5000	2010-10-04	GL-Baumusterprüfung Dokumentation – Autopilot NP5000	ISO 11674, IEC 62065, IEC 60945, IEC 62288, IEC 61162-1
2	TTD01-04-12_NP5000	2012-04-25	GL-Baumusterprüfung Dokumentation – Autopilot NP5000	In addition to 1: MSC.302(87), MSC.252(83)
3	TTD01-01-13_NP5000	2013-01-11	EC Type Approval – Nautopilot NP5500	In addition to 1: ISO 16329
4	TTD01-05-14_NP5000	2014-07-09	EC Type Approval – Track Control Systems – Nautopilot NP5400/NP5500 with ECDIS	In addition to 1: ISO 16329, IEC 61924-2, IEC 62288 Ed.2, IEC 61162-2
5	-	2020-07-03	Systemtest NP5000 Remote	ISO 11674 Ed.1
6	10000001052	Ed. 003	Operator Manual – NautoPilot 5000 Series Operator Unit 102-890 NG001/NG002/NG003	
7	10000001053	Ed. 006	Service Manual – NautoPilot 5000 Series Operator Unit 102-890 NG001/NG002/NG003	
8	4003.DOC010302	2016-02	Service Manual – Autopilot Interface AS – Interface Unit 102-891	
9	4237.DOC010302	2016-12	Service Manual – Autopilot Interface AS – Interface Unit 102-891 NG001 E01	
10	NP5000 Interface tests	2014-09-18	Report: RAN, Tests acc. to IEC 61162 (2010)	IEC 61162-1 Ed.4
11	TA01-09-21_NP5000	2021-09-15	Report: RAN, Tests according to IEC 62923-1/-2	IEC 62923-1/-2 Ed.1

Tests carried out

- Environmental and EMC testing: IEC 60945 (2002) incl. Corrigendum 1 (2008)
- Interface testing: IEC 61162-1 (2016) and IEC 61162-2 (1998)
- Presentation testing: IEC 62288 (2014)
- Bridge alert management testing: IEC 62923-1 (2018) and IEC 62923-2 (2018)
- Performance testing: ISO 11674 (2006) and ISO 16329 (2003)

Marking of product

According to IEC 60945, Sect.4.9:

The product to be marked with following information, where practicable:

- Identification of the manufacturer,
- Equipment type number or model identification under which it was type tested,
- Serial number of the unit,
- Compass safe distance.

Alternatively, the marking may be presented on a display at equipment start-up, and in case of fixed equipment compass safe distance may be given in the equipment manual.

END OF CERTIFICATE