

# EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

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

**This is to certify:****That the Integrated navigation system (INS)**with type designation(s)  
**SYNOPSIS NX INS**

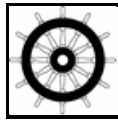
Issued to

**Raytheon Anschütz GmbH**  
**Kiel, Schleswig-Holstein, Germany**

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

Regulation **(EU) 2019/1397,****item No. MED/4.59. SOLAS 74 as amended, Regulations V/15, 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.252(83), IMO Res. MSC.302(87)**

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

This Certificate is valid until **2021-08-28**.Issued at **Hamburg** on **2020-01-07**DNV GL local station:  
**Hamburg**Approval Engineer:  
**Harald Bluhm**Notified Body  
No.: **0098**for **DNV GL SE****Gerhard Aulbert**  
**Head of Notified 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-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 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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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.



## Product description

The Integrated Navigation System SYNOPSIS INS comprises of the following equipment necessary for functioning:

No.	Designation	Type Designation
<b>1</b>	<b>Transceiver units</b> Pedestal / Transceiver Pedestal / Transceiver Pulse Compression Arrays Waveguide coupler	<b>One or more units</b> As defined in separate certificate *)
<b>2</b>	<b>Main Processing Unit</b> Computer	As defined in separate certificate *)
<b>3</b>	<b>Display Units CAT 1, CAT 1H, CAT 1C, CAT 1HC</b> PPI diameter min. 320mm, may be also used for CAT 2 and CAT 3, ECDIS, INS	As defined in separate certificate *)
<b>4</b>	<b>Display Units CAT 2, CAT 2H, CAT 2C, CAT 2HC</b> PPI diameter min. 250mm, may be also used for CAT 3, ECDIS, INS	As defined in separate certificate *)
<b>5</b>	<b>User Interface</b> Operator Units KVM Equipment	As defined in separate certificate *)
<b>6</b>	<b>Interfaces</b> Serial to ethernet converter VDR interface	As defined in separate certificate *)
<b>7</b>	<b>Network switches</b> Ethernet switches / Fiber LAN converter	As defined in separate certificate *)
<b>8</b>	<b>Optional components</b>	As defined in separate certificate *)

## Software

No.	Designation	Type Designation
1	Operating System	embedded Windows 7
2	Bridge Integration Platform Synopsis Service Tool including an arbitrary combination of one or several of the following software: Synopsis ECDIS NX Synopsis Radar NX Synopsis Conning NX	NB46-001 E04.XX NB48-001 E04.XX  NB44-015 E04.XX NB45-015 E04.XX NB47-002 E04.XX

## Application/Limitation

- The Integrated Navigation System SYNOPSIS INS including alert management and operation and monitoring of Centralized Alert Management HMI (CAM-HMI) is accepted according to IMO MSC.252(83), Module C – Alert Management and IMO SN.1/Circ.288.
- At least the tasks collision avoidance and route monitoring shall be integrated in one of the multifunctional workstations. Minimum configuration consists of at least 3 (three) multifunctional workstations.

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Certificate No: **MEDB000058H**

- IMO SN.1/Circ.MSC.1/Circ.1503: ECDIS that is not updated for the latest version of IMO Standards may not meet the chart carriage requirements as set out in SOLAS regulation V/19.2.1.4.
- Chart data formats: as defined in separate certificate\*)
- System interfaces (undisturbed operation): as defined in separate certificate\*)
- Backup arrangements (ECDIS): as defined in separate certificate\*)

The Raytheon Synapsis INS is found in compliance with DNVGL qualifier ICS (Part 6, Chapter 3, Section 3, §7, Jan 2019)

\*) The Type Approval certificate TAA00002JU for Synapsis system platforms 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.dnvgl.com/>.

## Type Examination documentation

DNVGL No	Document Id.	Rev.	Description
1	TTD03-11-19	Latest	Overview Testreports
2	Dok. 4450 Dok. 4428 Dok. 4452 Dok. 4386 Dok. 4451		SYNAPSIS Radar NX SYNAPSIS Service Tool SYNAPSIS System Manual SYNAPSIS ECDIS NX SYNAPSIS Conning NX
3	TAA00002JU	Latest	Certificate: DNVGL, Synapsis platform

## Tests carried out

Environmental and EMC testing: IEC 60945 (2002) incl. Corr. 1(2008)

Serial interface testing: IEC 61162-1(2016), IEC 61162-2(1998), IEC 61162-450(2011) incl. am1 (2016)  
Presentation: IEC 62288 (2014)

Performance testing: IEC 61924-2 (2012), ISO 20672(2007), ISO 20673 (2007), ISO 22554 (2007), ISO 22555:2007, Remote access IEC61162-460 (2018) direct communication.

## Marking of product

According to Article 10 of the Council Directive (MED):

- The wheel mark shall be affixed visibly, legibly and indelibly to the product or to its data plate and, where relevant, embedded in its software. Where that is not possible or not warranted on account of the nature of the product, it shall be affixed to the packaging and to the accompanying documents.
- The wheel mark shall be affixed at the end of the production phase.
- The wheel mark shall be followed by the identification number of the notified body, where that body is involved in the production control phase, and by the year in which the mark is affixed.
- The identification number of the notified body shall be affixed by the body itself or, under its instructions, by the manufacturer or the manufacturer's authorised representative.

For specific products, manufacturers may use an appropriate and reliable form of electronic tag instead of, or in addition to, the wheel mark.



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Each unit of equipment normally to be installed in a distance of 5 m or less from a standard or a steering magnetic compass shall be clearly marked with the minimum safe distance at which it may be mounted from such compasses.

*Only for fixed equipment:* Alternatively, the minimum safe distance may be given in the equipment manual.

END OF CERTIFICATE