EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB00007ZS

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 Rate-of-turn indicator (ROTI)

with type designation(s)
Anschütz Gyro Compass Standard 22 NX and/or Standard 22 NX M and/or Standard 30 MF

Issued to
Raytheon Anschütz GmbH
Kiel, Schleswig-Holstein, Germany

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2021/1158,**
item No. MED/4.9. SOLAS 74 as amended, Regulations V/18, V/19 & X/3, IMO Res. A.526(13), 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 **2027-06-13**.

Issued at **Hamburg** on **2022-06-14**

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), as allowed by the "Agreement between the European Community and the United States of America on Mutual Recognition of Certificates of Conformity for Marine Equipment", signed February 27th, 2004, and amended by Decision No 1/2018 dated February 18th, 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 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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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 rate-of-turn indicator system based on Anschütz Gyro Compass system comprises of:

Anschütz Gyro Compass Standard 22 NX Type: 110-244

including Sensor PCB	with software version 110-244.P0001 E00.xx (xx ≥ 20)
and Outer Sphere PCB	with software version 110-244.P0002 E00.xx
including Gyro Sphere	Type: 111-006.E01

and/or

Anschütz Gyro Compass Standard 22 NX M Type: 110-246

including Sensor PCB	with software version 110-246.P0001 E00.xx (xx ≥ 20)
and Outer Sphere PCB	with software version 110-246.P0002 E00.xx
including Gyro Sphere	Type: 111-006.E01

and/or

Anschütz Gyro Compass Standard 30 MF Type: 110-700.NG001

with	with software version 110-700.P0001 E01.xx (xx ≥ 20)

Rate-of-turn indicators:
Type: NB09-066.00-xxx containing measuring instruments LSP144 or
Type: KLPQ-144WP-xxx / KLPQ-144-xxx / BCI-240-144-xxx, containing measuring instruments D3v144S

Optional equipment:

Operator Unit		Type: 130-626 NG001	with software version 130-626.P0001 E00.xx (xx ≥ 20)
	or	Type: 130-626 NG002	with software version 130-626.P0002 E00.xx (xx ≥ 20)
	or	Type: 130-626 NG002 E01	with software version 130-626.P0002 E01.xx (xx ≥ 20)

1. Distribution Unit Type: 138-118 NG002
including interface PCB with software version 138-118.P0005 E01.xx, I/O PCB software version 138-118.P0006 E00.xx, and software version 138-118.P0007 E00.xx
2. Distribution Unit Type: 138-118 NG003
including interface PCB with software version 138-118.P0005 E01.xx, I/O PCB software version 138-118.P0006 E00.xx, and software version 138-118.P0007 E00.xx

Manuals:

Operator Manual	Standard 22 NX		10000000015
Service Manual	Standard 22 NX		10000000356
Operator Manual	Standard 22 NX M		10000000588
Service Manual	Standard 22 NX M		10000000589
Operator and Service Manual	Standard 30 MF		10000000756
	Operator Unit	130-626	4305.DOC010002
	Distribution Unit	138-118.NG002	3970.DOC010302
	Distribution Unit	138-118.NG003	4008.DOC010302
	Distribution Unit Compact	138-126	3971.DOC010002
	Operator Unit	130-626.NG002	4352.DOC010002

Application/Limitation

The rate-of-turn indicator system based on Anschütz gyro compass system fulfils the carriage requirements of 2000 HSC Code, 13.

Type Examination documentation

Tests carried out

- Environmental and EMC testing: IEC 60945 (2002) incl. Corrigendum 1 (2008)
- Interface testing: IEC 61162-1 (2016), IEC 61162-2 (1998) and IEC 61162-450 (2018)
- Presentation testing: IEC 62288 (2014)
- Bridge alert management testing: IEC 62923-1 (2018) and IEC 62923-2 (2018)
- Performance testing: ISO 20672 (2007)

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