DNV·GL

Certificate No:
MEDB00003X2

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 Rudder angle indicator

with type designation(s)
NT850 RAI, NT1000 RAI

Issued to
Navitron Systems Ltd.
Havant, Hampshire, PO9 1JB, United Kingdom

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2017/306,**
item No. MED/4.20. SOLAS 74 as amended, Regulations 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.302(87)

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

This Certificate is valid until **2023-03-07**.

Issued at **Hamburg** on **2018-03-08**

DNV GL local station:
Southampton

Approval Engineer:
Jörg Rebel

Notified Body
No.: **0098**

for **DNV GL SE**

Sven Dudszus
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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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.

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Job Id: **344.1-007987-1**
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Product description

The NAVITRON rudder angle indicator system consists of the following equipment:

NT850 RAI (Ø = 66mm)	Rudder angle indicator (flange mounted), 130x130mm, illuminated, IP65, Front IP66 (cut out dimensions 110mm x 110mm),

And/or

NT1000 RAI (Ø = 94mm)	Rudder angle indicator (flange mounted), 154x154mm, illuminated, IP65, Front IP66 (cut out dimensions 134mm x 134mm),

With different scales up to ±70deg.

NT920 RRU	Rudder reference (feedback) unit with lever drive, or
NT920 DRRU	Rudder reference (feedback) unit with lever drive, or
NT1000 RRU	Rudder reference (feedback) unit with lever drive

Application/Limitation

None

Type Examination documentation

DNV GL No	Document ID	Rev.	Description
3	12J504 CR	2013-01-14	Report: EMC tests acc. to IEC60945, Sects. 9 & 10
5	75920683	2013-01-14	Report: Environmental and Compass Safe Distance tests acc. to IEC60945, Sects.8 and 11.2
6	GL_Navitron_NT850_12_2012	-	Report: Performance tests acc. to ISO20673
7	-	1114/3	Manual: Installation & Technical Manual

Tests carried out

- Performance testing: ISO 20673 (2007)
- Environmental testing: IEC 60945 (2002) incl. Corrigendum 1 (2008)
- Serial interface testing: IEC 61162-1 (2010 and 2016), IEC 61162-2 (1998)
  Presentation of navigational information: IEC 62288 (2014)

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.

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

- Wheel mark to 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.
- Wheel mark to be affixed at the end of the production phase.

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

END OF CERTIFICATE