

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Application of: Council Directive 96/98/EC of 20 December 1996 on Marine Equipment (MED) as amended by directive (EU) 2015/559. This Certificate is issued by DNV GL SE based on the notification of the German Federal Ministry of Transport, Building and Urban Development.

This is to certify:

That the Rudder angle indicator

with type designation(s)
Norimeter 3

Issued to

NORIS Automation GmbH
NÜRNBERG, Germany

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

Annex A.1, item No. A.1/4.20 and Annex B, Module B in the Directive; SOLAS 74 as amended, Regulations V/18, V/19 & X/3, IMO Res A.526(13) & A.694(17), IMO Res. MSC. 191(79) and 2000 HSC Code 13
IMO Resolution MSC 191(79)

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

This Certificate is valid until **2021-07-12**.

Issued at **Hamburg** on **2016-07-13**

DNV GL local station:
Augsburg

Approval Engineer:
Jörg Rebel



Notified Body
No.: **0098**



for **DNV GL SE**

Digitally Signed By: Mydlak-Röder, Christine

Location: DNV GL Hamburg, Germany

Signing Date: 2016-08-02, on behalf of

Sven Dudzus
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 Council Directive 96/98/EC, as amended.

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.

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 rudder angle indicator system Norimeter 3 consists of the following equipment:

Indicators:

NIQ3-072 (72x72 mm), NIQ3-096 (96x96 mm) or NIQ3-144 (144x144 mm)

NIR3-060 (ø 60 mm), NIR3-080 (ø 80 mm), NIR3-100 (ø 100 mm) or NIR3-130 (ø 130 mm)
with pointer up to max. 300°

NIQ31-072 (72x72 mm), NIQ31-096 (96x96 mm) or NIQ31-144 (144x144 mm)
with instrument faceplate 360°

Rudder angle feedback unit:

DWAxx-y-(z)

xx = 50, 60, ..., 320 degrees / y = mechanical size 1 or 2 / z = n/a
e. g. DWA50-1 (±25deg), DWA302-2(±160deg) by using SA502-3G

xx = 10, 20, ..., 360 degrees / y = mechanical size 1 or 2 / z = I2 or U2
e.g. DWA360-1-I2 (±180deg), DWA90-2-U2 (±45deg)

R-U-I-Converter: SA502-3G

Application/Limitation

None

Type Examination documentation

Data sheets:

DB-NIR3/NIQ3-EN, V01.01, dated 2016-04-11; DB-NIQ31-EN, V01.00, dated 2016-04-04;

DB-DWA-EN, v01.03, dated 2016-06-15.

Manual: SA502-3G_NAR-KD-0103-1-en, V1.03, dated 2011-08-08.

Test reports NIQ3.../NIR3...:

ISO 20673 Noris, dated 2011-02-09; LGA E5.214-21152593, dated 2010-07-29; 21146111_001, dated 2010-02-02; 2114612_001, dated 2010-02-02.

Test reports DWA...:

BV ECL-EMC 16-133, rev.01; BV ECL-ENV 16-009, rev.01; BV ECL-ENV 16-010, rev.02; Noris IT16-001, vers. 01, dated 2016-02-18; Noris Product Test Report KE1151, dated 2016-03-08; Noris IP06-001, EN60529, dated 2006-07-26; Schwille test report nr. 4394, dated 2011-04-06.

Tests carried out

Applicable tests according to ISO 20673 (2007), IEC 60945 (2002) including Corr. 1 (2008), IEC 62288 Ed. 2.0 (2014) and IEC 61162 series.

Marking of product

According to Article 11 and Annex I 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, 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.
- For specific products, manufacturers may use an appropriate and reliable form of electronic tag instead of, or in addition to, the wheel mark.