

TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate no.:
MERB0001N8C
Revision no.:
0

This Certificate is issued by DNV UK Limited based on authorisation of the Maritime & Coast Guard Agency (MCA) as an UK Approved Body to undertake conformity assessments on marine equipment in accordance with the requirements of the Merchant Shipping (Marine Equipment) Regulations 2016 as amended.

This is to certify:

that the **Rate-of-turn indicator**

with type designation(s)

NGC-5010,NGC-5030,NGC-5050,NGC-5070

issued to

New Sunrise Co., Ltd.

Suzhou, China

is found to comply with the Regulation (UK) **MSN 1874 Amendment 10** for
Item no. **UK/4.9 (Row 2 of 2)**

according to the following requirements:

**SOLAS 74 Reg. V/19, IMO Res.A.526(13), IMO Res. A.694(17), IMO Res. MSC.191(79), IMO Res. MSC.302(87),
SOLAS 74 Reg. V/18, SOLAS 74 Reg. X/3, IMO Res. MSC.36(63)-(1994 HSC Code) 13, IMO Res. MSC.97(73)-(2000
HSC Code) 13**

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

Date of issue: **2025-10-01**

Expiry date: **2030-09-30**

DNV local unit:
Shanghai



for **DNV UK Ltd.**

Approval Engineer:
Jörg Rebel

Approved Body No.: 0097

Christine Mydlak-Röder
MER Service Responsible



**Maritime &
Coastguard
Agency**

UK Approved Body Authorised
by the MCA

This certificate will not be valid if the manufacturer makes any changes or modifications to the approved type of equipment, which have not been notified to, and agreed with the approved body named on this certificate.

During the period of validity of this certificate the applicable regulations (international conventions and the relevant resolutions and circulars of the IMO) and testing standards may change, therefore the product conformity may need to be re-assessed by the Approved 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-control phase module (D, E or F) of Schedule 2 of the Merchant Shipping (Marine Equipment) Regulations 2016, as amended is fully complied with and controlled by a written inspection agreement with an approved body. In case limitations of use apply, these should be indicated in the Annex.

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 USD 300 000.

Product description

The Rate-of-turn (ROT) indicator type NGC-516 with sensor fiber-optic gyro compass series types NGC-5010, NGC-5030, NGC-5050 and NGC-5070 (hereinafter referred to as NGC-50X0) comprises the following components:

Mandatory components:

1. Compass Unit type NGC-50X (X = 1, 3, 5 or 7) with heading accuracy of $0.X^\circ \times \secant \text{ latitude}$
2. Interface Unit type NGC-512 (for maximal two Compass Units)
3. ROT Indicator type NGC-516

Optional components:

4. Display Unit type NGC-513 (see also note under "Application and limitation")
5. Remote Unit type NGC-514 (as digital heading repeater)
6. Steering Repeater Compass type NGC-518
7. Bearing Repeater Compass type NGC-519
8. Azimuth Reading Device type NGC-519A ¹
9. Thermal Printer type NPT-100

External interfaces:

- Serial interface acc. to IEC 61162-1: 1 x CAM/INS (in/out), 1 x HCS (in/out), 1 x Speed (in), 2 x Position (in), 3 x external compass (Heading in)
- Serial interface acc. to IEC 61162-2: 8 x Heading out, 8 x Repeater compass ²
- Digital out: 2 x normally-closed contact, e.g. for indicating total loss of power
- Printer (NPT-100)

Power supply: 220 V AC (198..242 V AC), 24 V DC (12..36 V DC)

All components listed above fulfill the requirements for protected equipment according to IEC 60945 and for IP22, NGC-519 fulfills also the requirements for exposed equipment according to IEC 60945 and for IPX6.

¹ IMO compliance to be demonstrated with separate certificate

² including ROT indicator NGC-516, and Remote Unit NGC-514, if connected

Application/Limitation

- The gyro compass types NGC-50X0 fulfills the carriage requirements according to 2000 HSC Code, 13.
- Installation to be performed according to the manufacturer's Operation, Installation and Service manual.
- Other repeater compasses may be connected to NGC-50X0, if approved according to applicable IMO requirements and if providing serial interfaces according to IEC 61162-1 and IEC 61162-2.
- If no Display Unit connected to the Interface Unit, Compass device to be connected to a Central Alert Management (CAM) system for alert management.

Type Examination documentation

Tests carried out

- Environmental and EMC testing: IEC 60945 (2002) incl. Corrigendum 1 (2008)
- Interface testing: IEC 61162-1 (2016 + 2024) and IEC 61162-2 (1998 + 2024)
- Presentation testing: IEC 62288 (2021) incl. Amendment 1 (2024)
- Bridge alert management testing: IEC 62923-1 (2018) and IEC 62923-2 (2018)
- Performance testing: ISO 20672 (2022)

Marking of product

According to IEC 60945, Sect.4.9:

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

- Identification of the manufacturer,



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- 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.