

TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MERB00007M0
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 Gyro compass

with type designation(s)
NAVIGAT 100

Issued to

**Northrop Grumman Sperry Marine B.V. - German Branch
Hamburg, Germany**

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

Regulation **MSN 1874 Amendment 6,**

item No. UK/4.65 SOLAS 74 as amended, V/18, V/19, X/3, IMO Res. MSC.36(63)-(1994 HSC Code) 13, IMO Res. MSC.97(73)-(2000 HSC Code) 13, IMO Res.A.424(XI), IMO Res.A.694(17), A.821(19), IMO Res.MSC.191(79), MSC.302(87), IMO MSC.1/Circ.1349

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

This Certificate is valid until **2026-04-29**.

Issued at **London** on **2022-11-15**

DNV local unit:
Hamburg – CMC North/East



for **DNV UK Ltd.**

Approval Engineer:
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Approved Body No.: **0097**

Christine Mydlak-Röder
MER Service Responsible



**Maritime &
Coastguard
Agency**

UK Approved Body Authorised
by the MCA

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. The product liability rests with the manufacturer or his representative in accordance with the Merchant Shipping (Marine Equipment) Regulations 2016.

This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV UK Ltd. 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. This certificate remains valid unless suspended, withdrawn, re-called, or cancelled.

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

NAVIGAT 100 is an electronic gyro-compass, that can act as a stand-alone sensor only gyrocompass or may be integrated into a CompassNet system with a Converter and Amplifier Unit (CAU) or Converter and Amplifier Board (CAB), and comprises of the following equipment necessary for functioning:

Mastercompass:	NAVIGAT 100	Type: 5026-AA rev. Hx or Jx or Kx
with		
Gyrosphere:		Type: 4911 rev. Dx
or		Type: 5000 rev. Dx
And		
Container Mod. 10/3		Type: 4991-4000 rev. Fx
or Container Mod. 10/4		Type: 5026-4000 rev. Cx

The following units may be used:

Converter and Amplifier Unit		Type: 5018 rev. Hx
Converter and Amplifier Board		Type: 5018-5100 rev. Gx
Data Distribution Unit		Type: 5017 rev. Gx
DDU Processor Module		Type: 5017-2000 rev. Gx
NAVITWIN V		Type: 5019 rev. Dx

The following repeater may be used when configured as gyro-compass / gyro-compass for high-speed craft (HSC):

Steering repeater (console mounted)		Type: 5016-AA rev. Kx
Steering repeater (console mounted)		Type: 4881 rev. Ex
Steering Repeater (console mounted)		Type: 4881-AA rev. Ex
Steering Repeater (console mounted)		Type: 5016-AB rev. Kx
Steering Repeater (console mounted)		Type: 4881-AD rev. Cx
(Magnetic, only in connection with NAVITWIN)		
Repeater (bulkhead mounted)		Type: 5016-AC rev. Kx
Repeater (bulkhead mounted)		Type: 4881-AC rev. Dx
Repeater (bulkhead mounted)		Type: 4881-AK rev. Dx
Bearing Repeater		Type: 5016 rev. Lx
Bearing Repeater		Type: 5016-BB rev. Ax
Bearing Repeater		Type: 4881-AB rev. Fx
Bearing Repeater		Type: 4881-AM rev. Dx
with		
Bearing Repeater Stand		Type: 4622-AB rev. ACx, 4622-AC rev. Fx, 4622-AD rev. Ax
Bearing Repeater Stand	(Sperry)	Type: 1812783
Bearing Repeater Bracket		Type: 4890-AB rev. Ex
Bearing Repeater Bracket	(height adjustable)	Type: 4905-AB rev. Ax
Terminal Box		Type: 4884-AC rev. Bx
Terminal Box		Type: 4894-AD rev. Bx

Options:

Voyage Data Printer		Type: 4805
(only in connection with NAVITWIN)		
Digital Tape Repeater		Type: DTR 600
Universal Digital Repeater (UDR)		Type: 4891
Multifunction Display	NAVIDATA	Type: 4806-AC
Multifunction Display	NAVIDATA	Type: 4806-AD
Multifunction Display	NAVIDATA	Type: 4806-AE
Switch over box		Type: 4932
Splitter box		Type: 4936 or 4992
Optoisolator		Type: 55555
Power Supply		Type: 2568

Software versions:

NAVIGAT 100	CCU Software Version 2.xxx (xxx ≥ 004)
	CSU Software Version 2.xxx (xxx ≥ 003)
Converter and Amplifier Unit	Software Version 2.xx
Converter and Amplifier Board	Software Version 2.xx
Data Distribution Unit	Software Version 2.xx



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DDU Processor Module
NAVITWIN V

Software Version 2.xx
Software Version 2.xx

Note:

Heading Management System NAVITWIN V:

The Heading Management System NAVITWIN V is a central control and display device for multi-compass systems for the maritime navigation of vessels. The functionality includes heading source functionality compliant with the requirements of DNVGL Rules for Ships Pt.6 Ch.3 with regard to distribution of heading information and the following parts are required for compliance:

Data Distribution Unit Type: 5017
NAVITWIN V Type: 5019

The CompassNet System offers the possibility to connect other type approved Gyro compasses via
CAU (Converter and Amplifier Unit) Type:5018 and
CAB (Converter and Amplifier Board) Type:5018-5100.

Application/Limitation

The gyro compass NAVIGAT 100 fulfils the carriage requirements according to 2000 HSC Code, 13.

Installation to be performed according to the manufacturers Operation, Installation and Service manual.

The gyro compass NAVIGAT 100 provides serial alert communication fulfilling the requirements of IEC 62923-1 (2018) and IEC 62923-2 (2018). The gyro compass shall be installed on board associated with an alert display compliant with IEC 60945, IEC 61162 series, IEC 62288, and the relevant requirements of IEC 62923-1/-2.

According to IEC 62923-1 (2018) a back-up shall be provided for this display.

Type Examination documentation

Test reports:

5026-0141-07 Rev. B, 5017-0141-03 Rev. B, 5026-0141-02 Rev. B, 5026-0141-01 Rev. A, 5017-0141-01 A1, 5019-0141-01 Rev. B, 5026-0141-04 Rev. A, 5026-0141-05 Rev. A, 002 16 V1U, 003-16-V1U, ECL-EMC-TR-16-042-V1.00, ECL-EMC-TR-16-045-V1.00, 5026-0141-03 Rev. A, 5023-0141-02 Rev. B, ECL-EMC-TR-17-010-V02.00 (IEC 60945 EMC), 5026-0141-08 Rev. B (ISO 8728, ISO 20672), TREO 172-17 (ISO 8728, Vibration), 152-20 Issue 2, 005026-0141-26 Rev. C, 5017-0141-17 Rev. C (IEC 62923-1, IEC 62923-2), 5026-0141-27 Rev. C (K60).

Manuals:

Operation, Installation and Service Manual NAVIGAT 100 056373
Operation, Installation and Service Manual Repeater Compass System 056376
Operation, Installation and Service Manual Switch-Over Unit 056318
Operation, Installation and Service Manual Universal Digital Repeater 056351

Tests carried out

- Environmental and EMC testing: IEC 60945 (2002) incl. Corrigendum 1 (2008)
- Interface testing: IEC 61162-1 (2016) and IEC 61162-2 (1998)
- Presentation testing: IEC 62288 (2014)
- Bridge alert management testing: IEC 62923-1 (2018) and IEC 62923-2 (2018)
- Performance testing: ISO 8728 (2014) and ISO 16328 (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.

END OF CERTIFICATE