TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MERB00007M0
Revision No:
2

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

is found to comply with the requirements in the following Regulations/Standards:
Regulation **MSN 1874 Amendment 9,**
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 **2024-07-29**

DNV local unit:
Hamburg – CMC North/East

Approval Engineer:
Jörg Rebel

Approved Body No.: **0097**

for **DNV UK Ltd.**

Digitally Signed By: Mydlak-Röder, Christine

Mydlak-Röder, Christine
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.

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 Heading Management System by means of a Converter and Amplifier Unit (CAU) or Converter and Amplifier Board (CAB), and comprises of the following equipment necessary for functioning:

Mastercompass:	NAVIGAT 100	P/N: 073518-0000-xxx
with		
Gyrosphere:		P/N: 074829-0000-xxx,
		or P/N: 074831-0000-xxx
and		
Gyro Container Mod. 10/4		P/N: 025953-0000-xxx
The following units may be used:		
Converter and Amplifier Unit		P/N: 074904-0000-xxx
Converter and Amplifier Board		P/N: 025826-0000-xxx
incl. CAB/CAU Main PCB		P/N: 020760-0000-xxx
Data Distribution Unit (DDU)		P/N: 074907-0001-xxx,
		or P/N: 074907-0002-xxx
DDU Processor Module		P/N: 025786-0001-xxx,
		or P/N: 025786-0002-xxx
NAVITWIN V		P/N: 074902-0000-xxx,
		or P/N: 074902-0001-xxx
The following repeater may be used:		
Steering Repeater (console mounted)		P/N: 074881-0001-xxx
Steering Repeater (console mounted)	(permanent magnetic heading)	P/N: 074882-0001-xxx
Repeater (bulkhead mounted)		P/N: 074883-0001-xxx
Bearing Repeater		P/N: 074880-0001-xxx
Bearing Repeater		P/N: 074926-0000-xxx
with		
Bearing Repeater Stand		P/N: 074887-0000-xxx, or
Bearing Repeater Stand		P/N: 074911-0000-xxx
or		
Bearing Repeater Bracket		P/N: 074886-0000-xxx, or
Bearing Repeater Bracket	(height adjustable)	P/N: 074888-0000-xxx
Terminal Box		P/N: 074859-0000-xxx
Options:		
Universal Digital Repeater (console mounted)		P/N: 074833-0000-xxx, or
Universal Digital Repeater (in Housing with Brackets)		P/N: 074834-0000-xxx
with		
Terminal Box		P/N: 074837-0000-xxx
Multifunctional NAV Data Repeater		P/N: SM-XDI192N
Multifunctional NAV Data Repeater		P/N: SM-XDI144N
optional:		
Serial I/O Module		P/N: SM-XDI-NX1
Serial I/O Module		P/N: SM-XDI-NX2
Analogue Extension Module		P/N: SM-XDI-AX1
Voyage Data Printer		P/N: 074913-0000-xxx
RS422 Splitter Box		P/N: 074800-0000-xxx
		or P/N: 074850-0000-xxx
Optoisolator		P/N: 055555-0000-xxx
Power Supply (input 110/220/380 V AC, output 35 V DC)		P/N: 074031-0000-xxx
Power Supply (input 110/220/380 V AC, output 50 V DC)		P/N: 074032-0000-xxx
Power Supply (input 110/220/380 V AC, output 70 V DC)		P/N: 074033-0000-xxx

Software versions:

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

DDU Processor Module	Software Version 2.xxx
NAVITWIN V	Software Version 2.xxx

Note:
Heading Management System CompassNet:
The Heading Management System CompassNet 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 DNV 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 (DDU)	P/N: 074907-0001-xxx, or P/N: 074907-0002-xxx
NAVITWIN V	P/N: 074902-0000-xxx, or P/N: 074902-0001-xxx

The CompassNet system offers the possibility to connect other type approved gyro compasses via

Converter and Amplifier Unit	P/N: 074904-0000-xxx
Converter and Amplifier Board	P/N: 025826-0000-xxx

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	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 (2021)
• 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